

BUSINESS WEEK

A MCGRAW-HILL PUBLICATION

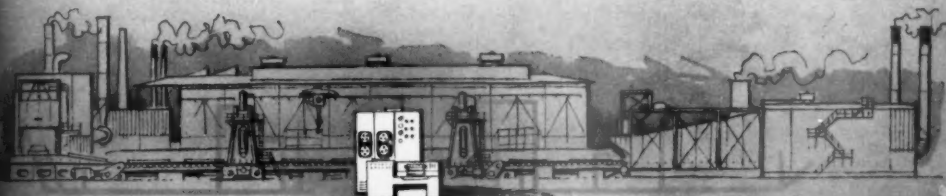
FIFTY CENTS

NOV. 5, 1960

STORAGE COLLECTION

Computers Start Running Plants

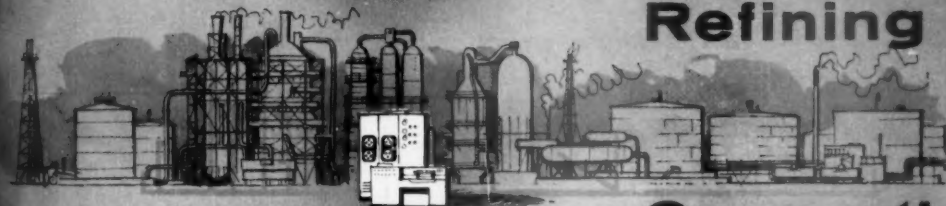
Rolling Steel



Making Chemicals



Refining Oil



Generating Power



(Production)

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"National POST-TRONIC machines save us 61% annually on our investment!"

—SOCIETY NATIONAL BANK OF CLEVELAND, Cleveland, Ohio

"We are always striving to maintain Society's 110-year-old reputation as a helpful, friendly place to do business. This requires equipment to handle the ever-increasing checking account activity.

"In mid-1958, we installed seven National POST-TRONIC® machines in our Commercial Bookkeeping Department.

"Comparison of our operating costs shows our POST-TRONIC installation saves us 61% of our investment each year.

"Among the many factors that make possible these savings is floor space. The speed and efficiency of the seven POST-TRONIC


machines enable us to save enough space so we can centralize our bookkeeping at the main office for all our branches.

"These savings have proved to our management that National POST-TRONIC machines are an excellent investment for banks ... in terms of reduced operating costs, and in maintaining customer service while handling increased work loads each day."

Mervin B. France

Mervin B. France, President
Society National Bank of Cleveland

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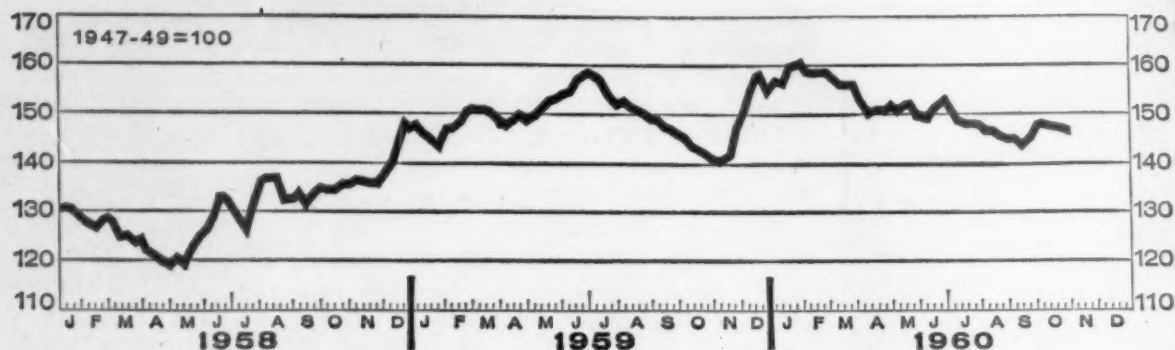
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BUSINESS WEEK INDEX (chart)

1953-55 Average	Year Ago	Month Ago	Week Ago	\$ Latest Week
133.3	141.6	148.7	147.4r	146.9*

PRODUCTION

Steel ingot (thous. of tons).....	2,032	368	1,522	1,545r	1,473
Automobiles	125,553	101,616	134,118	146,339r	149,525
Engineering const. awards (Eng. News-Rec. 4-wk. daily av. in thous.).....	\$52,412	\$47,639	\$75,166	\$74,814	\$65,256
Electric power (millions of kilowatt-hours).....	10,819	12,978	13,779	13,805	13,883
Crude oil and condensate (daily av., thous. of bbls.).....	6,536	6,887	6,849	6,771	6,821
Bituminous coal (daily av., thous. of tons).....	1,455	1,350	1,370	1,421r	1,415
Paperboard (tons)	247,488	332,303	324,667	327,941	318,032

TRADE

Carloadings: miscellaneous and L.e.I. (daily av., thous. of cars).....	70	60	58	61	60
Carloadings: all others (daily av., thous. of cars).....	47	41	45	48	46
Department store sales index (1947-49 = 100, not seasonally adjusted).....	121	151	148	155	157
Business failures (Dun & Bradstreet, number).....	198	273	304	270	331

PRICES

Industrial raw materials, daily index (BLS, 1947-49 = 100).....	89.2	96.0	89.6	88.7	88.1
Foodstuffs, daily index (BLS, 1947-49 = 100).....	90.5	74.9	75.5	75.9	75.9
Print cloth (spot and nearby, yd.).....	19.8¢	20.8¢	18.9¢	18.2¢	18.2¢
Finished steel, index (BLS, 1947-49 = 100).....	143.9	186.8	186.2	186.2	186.2
Scrap steel composite (Iron Age, ton).....	\$36.10	\$46.17	\$29.83	\$29.50	\$28.17
Copper (electrolytic, delivered price, E&MJ, lb.).....	32.39¢	33.27¢	32.87¢	30.00¢	30.00¢
Aluminum, primary pig (U. S. del., E&MJ, lb.).....	20.6¢	24.7¢	26.0¢	26.0¢	26.0¢
Aluminum, secondary alloy #380, 1% zinc (U. S. del., E&MJ, lb.).....	††	23.79¢	23.67¢	22.90¢	23.01¢
Wheat (No. 2, hard and dark hard winter, Kansas City, bu.).....	\$2.34	\$2.07	\$1.99	\$1.99	\$1.98
Cotton, daily price (middling, 1 in., 14 designated markets, lb.).....	34.57¢	31.60¢	30.31¢	30.20¢	30.20¢
Wool tops (Boston, lb.).....	\$1.96	\$1.83	\$1.64	\$1.65	\$1.66

FINANCE

500 stocks composite, price index (S&P's, 1941-43 = 100).....	31.64	57.40	53.18	53.29	53.48
Medium grade corporate bond yield (Baa issue, Moody's).....	3.59%	5.27%	5.08%	5.13%	5.12%
Prime commercial paper, 4 to 6 months, N. Y. City (prevailing rate).....	2-2½%	4%	3½%	3¼%	3½%

BANKING (Millions of Dollars)

Demand deposits adjusted, reporting member banks.....	††	61,239	58,813	59,705r	60,332
Total loans and investments, reporting member banks.....	††	103,388	106,209	105,647	107,436
Commercial, industrial and agricultural loans, reporting member banks....	††	30,452	32,596	32,617	32,503
U. S. Gov't guaranteed obligations held, reporting member banks.....	††	28,194	27,816	27,776	29,566
Total federal reserve credit outstanding.....	26,424	28,353	28,059	28,621	28,417
Gold Stock	19,474	19,486	18,697	18,581	18,473

MONTHLY FIGURES OF THE WEEK

		Average	Year Ago	Month Ago	Latest Month
McGraw-Hill Indexes of New Orders (1950 = 100)					
Private expenditures for new construction (in millions).....	October	\$2,390	\$3,360	\$3,556	\$3,478
Public expenditures for new construction (in millions).....	October	\$980	\$1,439	\$1,678	\$1,614
Manufacturer's inventories (seasonally adjusted, in billions).....	September	\$45.2	\$51.9	\$55.0	\$54.8
Consumer credit outstanding (in billions).....	September	\$34.1	\$49.4	\$53.9	\$54.1
Installment credit outstanding (in billions).....	September	\$24.2	\$38.0	\$42.0	\$42.1
Wholesaler's inventories (seasonally adjusted, in billions).....	September	\$10.6	\$12.5	\$13.1	\$13.1
Retailers' inventories (seasonally adjusted, in billions).....	September	\$21.4	\$24.8	\$25.2	\$25.3

* Preliminary, week ended October 29, 1960.
†† Not available.

‡ Revised.
§ Date for 'Latest Week' on each series on request.

THE COVER—John Coney; 25—WW; 28—Tom O'Reilly; 29—Joseph Nettis; 32-33—Jim Mahan; 50-51—Jones and Laughlin; 54—Bud Blake; 59—John Coney; 61—Bud Blake; 62—John Coney; 67—Bud Blake; 68—John Coney; (bottom) Bud Blake; 72—John Coney; 92-93—(left to right) WW, UPI, WW; 133—Tibor Hirsch; 144-145—Ed Nano; 151—Brookings Inst.



"Test fleet" starts its daily rounds on bikes equipped with the new Bendix automatic transmission and power brake. Over a year of road testing showed new automatic to be much safer and easier in operation.

NEWSBOY "TEST FLEET" OK's NEW BENDIX COASTER BRAKE

For over a year, a fleet of Elmira, N. Y., newsboys has been giving a new-type Bendix automatic gearshift bicycle brake some rugged testing. They've ridden their Bendix-equipped bikes uphill and down, over rough roads, made hundreds of stops while carrying heavy loads of newspapers. The new brake came through with flying colors, just as it had done in our test laboratories, and proved that it makes cycling safer, easier, and a lot more fun.

If you are thinking about buying a bike for your youngster, please consider these safety features: the Bendix® Automatic has two gears—*low* for easier pedaling on hills and rough ground, *high* for easier pedaling on the flat. The feet do the shifting so that the rider's hands are completely free for steering and balancing. Full-time power braking—a Bendix exclusive—gives the rider 30% to 50% more stopping power. Leading bike manufacturers now

use the Bendix Automatic. Look for the new "Bendix" at your dealer's.

Bendix has also pioneered with brakes for just about everything that rolls and must be stopped—cars, buses, trucks, aircraft, steam rollers, tractors, and off-the-road machines, among others. We are currently producing over 400 different models of brakes for the automotive industry alone and are also a major producer of automotive brake linings.

We introduced four-wheel brakes to this country and followed with Duo-Servo® brakes. They added new safety and were so successful and popular that, over the years, most makes of cars have been equipped with Bendix-type brakes. Add the fact that Bendix pioneered power



Changing gears is easy with the new Bendix automatic gearshift bicycle brake. The rider merely back-pedals a couple of inches, then pedals forward in the desired gear.

brakes and, more recently, automatic, self-adjusting brakes, and it's easy to see why we have built more brakes for more types of vehicles than any other company.

Incidentally, if you do not have power brakes on your present car, you can still enjoy their many benefits. Ask "the man who does your brake work" to install them. It takes less than an hour.



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NEWS OF LOCAL SERVICE AIRLINES



Texaco offers this series of informative bulletins in recognition of the vital new dimensions being added to business activity by Local Service Airlines. Texaco Inc., Aviation Sales Department, 135 East 42nd Street, New York 17, N. Y.

CIVIC PLANNERS FIND NEW WAY TO ATTRACT TOURISTS

Civic and business leaders of Fort Walton Beach, Fla., find it pays to personally advertise their annual Pirate Spring Festival.

Before the Festival starts, these men visit 15 to 20 cities in the vicinity by chartered Southern Airways planes. They invite everyone they see to come on down and join in the fun.

Other community boosters find this same word-of-mouth method effective in bringing in new business and permanent residents.

★ ★ ★

INDUSTRIAL LOCATION NO LONGER DEPENDENT ON FIXED TRANSPORTATION

Thanks to flexible, dependable local airline service, it is now possible for almost any community to establish the transportation facilities needed to attract industry.

Take the area around the Great Lakes covered by Lake Central Airlines. Among the giant industries which have moved into this area are six Westinghouse plants, six RCA plants, and nine General Electric subsidiaries.

Because fixed costs are lower and living conditions more pleasant, industrial planners find these moves to less congested areas profitable, too.

★ ★ ★

FLIGHT FREQUENCY BRINGS NEW LIFE TO SMALLER CITIES

Local airline flights offer the businessman or all-day shopper "go-and-return" service between small cities and their metropolitan neighbors. Flights are scheduled to allow travelers to conduct a full day's business and be back home for dinner with the family.

For example, North Central Airlines schedules 53 daily flights between Milwaukee and Chicago; 20 between Detroit and Chicago; four daily non-stops between Duluth and Chicago; and 16 flights between Milwaukee and Green Bay, Wisconsin.

Progressive towns use this flight frequency to plan future growth and to attract new industrial development to the intermediate-size city.

★ ★ ★

HOW LOCAL AIRLINE AIDS COMMUNITY GROWTH

Frontier Airlines has drastically stepped-up its service to meet the growing needs of Farmington, N. M. — which has had a recent 500% population jump because of local discoveries of oil, gas, and uranium.

Twelve daily flights bring in everything from oil field rigging equipment to flowers. Cargo pits and doors have even been changed to accommodate over-size items.

Accommodating service like this is typical of local airlines everywhere. More than 300 cities now use local service airlines as their *only* means of air transport.

★ ★ ★

SPECIAL AIRLIFT BOOSTS CARNIVAL ATTENDANCE

Caribair airlifted nearly 6,000 sightseers to the 5-day St. Thomas Carnival in Puerto Rico this spring. 216 round-trip flights did the job. Nearly 90% were scheduled during the 3-day peak period.

Because local service airlines are uniquely equipped to transport rapidly a few dozen or several thousand people on short notice, conventions, meetings, and other special events can now be held almost anywhere.

★ ★ ★

LOCAL CARRIERS OFFER UNIQUE ADVANTAGES

Passenger volume on local service airlines has increased *five times* since 1950. The many unique advantages offered by these airlines are a big reason why. Here are just two!

Aloha Airlines has converted almost completely to Rolls-Royce powered F-27 high-wing Jetprops giving passengers an unmatched view of the scenic beauty of the Hawaiian Islands. Aloha's Jetprop fleet is supplemented by DC-3 "Vistaliners" with 5-foot "flight-seeing" windows, as well as special lens ports for undistorted photography.

To help passengers get around the big Southwest faster, Bonanza Airlines has now converted almost completely to pressurized, air-conditioned F-27 Silver Dart Jetprops.

Roster of Local Service Airlines

Alaska • Alaska Coastal • Allegheny • Aloha • Bonanza • Caribair • Central • Cordova • Ellis • Frontier • Lake Central • Mohawk • North Central • Northern Consolidated • Ozark • Pacific • Piedmont • Reeve Aleutian • Southern • Trans-Texas • West Coast • Wien Alaska.

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BUSINESS WEEK • Nov. 5, 1960

READERS REPORT

Most Talked About

Dear Sir:

Your recent article [BW—Oct. 1 '60,p88] on the McCalls-Ladies Home Journal fracas was the most interesting—most talked about advertising article that has appeared in many a day.

PHILIP J. EVEREST

VICE PRESIDENT
TRANSPORTATION DISPLAYS, INC.
NEW YORK, N. Y.

Booked Ahead

Dear Sir:

I am quoted as saying [BW—Oct. 15'60,p53]: "If Cobo Hall gets publicized the way it should through the Auto Show, the number of tourists to Detroit will double in the next year."

While I have no quarrel with this as a general statement, unless amplified it leaves an implication that nothing has been done yet to sell Detroit's new facility.

The fact is that we have already booked 78 conventions and trade shows in Cobo Hall, with a total anticipated attendance of more than 750,000. Our work with these groups began as far back as 1955. . . .

Two of the giants among industrial trade shows are already committed to regular Cobo Hall visits: the Tool Show of the Society of Tool and Manufacturing Engineers every other year, the Metals Show of the American Society for Metals every fourth year.

H. E. BONING, JR.

EXECUTIVE VICE PRESIDENT
DETROIT CONVENTION &
TOURIST BUREAU
DETROIT, MICH.

Postage Meter

Dear Sir:

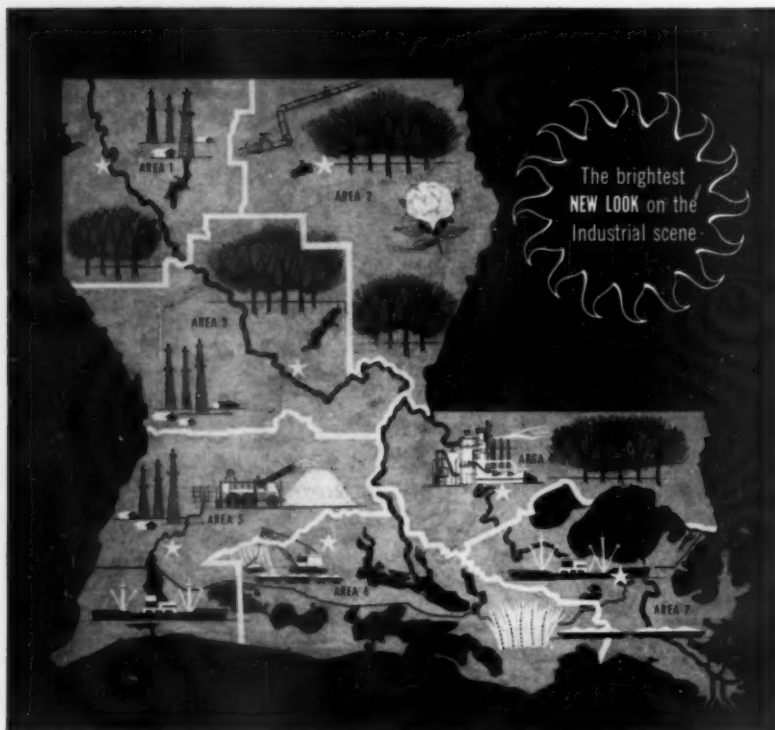
The article on the introduction of the Postalia postage meter in this country [BW—Oct. 1'60,p63] was interesting. There were a few errors regarding Pitney-Bowes, however.

Your article says "All previous meters have to be used with an electrically or mechanically driven mailing machine which prints the stamp." This is not true; we have more than 100,000 customers who use a desk-model self-contained meter, which rents for \$6 a month, and which has no separate mailing machine base.

We have "had the U. S. market

LOUISIANA / where climate is a lot more than "weather"

You'll find weather everywhere, but *Industrial Climate* is another matter. Investigate Louisiana's excellent *Climate* for business and industry, both large and small, established or projected. Get the facts on Louisiana's ample, top-stability labor force that gives a good day's work for a day's pay...our forests and fertile farmland...industrial sites offering up to several billions of gallons of fresh water per hour...deepwater, river and Intracoastal shipping. And remember Louisiana's big oil and gas, salt and sulphur reserves...pipelines and electric power transmission systems that deliver energy where it's needed. Most important of all, however,



are the people of Louisiana. In every phase of the state's *Industrial Climate*, it has been the people who supplied the initiative. They encouraged creation of the Louisiana Department of Commerce and Industry in 1936 and backed its pioneering 10-year ad valorem industrial tax exemption. You will like them—they speak your language, and they didn't learn it yesterday. Yes, *Climate* means much more than "Weather" in Louisiana. It is a conviction, a frame of mind that is producing the brightest new look on the industrial scene.

Every section of Louisiana has: SIZABLE COMMERCIAL CENTER / ABUNDANT FRESH WATER / ACCREDITED UNIVERSITY OR COLLEGES / TRADE SCHOOLS (Louisiana will train the labor you need) / GOOD RAIL, AIR, HIGHWAY TRANSPORTATION / LOW COST ELECTRIC POWER, NATURAL GAS AND PETROLEUM PRODUCTS

A greatly varied range of businesses and industries enjoy Louisiana's favorable "Industrial Climate" NOW.

Complete information on request from:

**LOUISIANA DEPARTMENT OF COMMERCE & INDUSTRY
CAPITOL STATION • BATON ROUGE 4**

entirely" to ourselves only since 1952. In the previous 32 years we had competition from a number of meter manufacturers. We hold no "basic patents." Our basic patents on the postage meter, ironically enough, expired about the time the metered mail system was approved by Congress in 1920. . . .

We would have welcomed competition at any time in the last eight years. As we have said on many occasions, we want to have competition because we are convinced it serves our own long-range interest, as well as the public interest, to have it.

H. M. NORDBERG

PRESIDENT
PITNEY-BOWES, INC.
STAMFORD, CONN.

Watch That Price

Dear Sir:

If you devote several pages to the Meal-in-a-Glass Diet [BW—Oct.22 '60,p26] we believe you owe it to your customers (who we hope are budget minded) to tell them what S. Klein on the Square is doing in this direction.

As of the date of your October 22 issue where you note the lowest 900 calorie drink price of 76¢ per 8 oz. can, Klein's was offering 8 ounces for 49¢ and a 3½ lb. can for \$2.94, which we believe is the lowest in the city. If it is not, by the time you publish this our latest prices will be.

PHILIP S. HARRIS

PRESIDENT
S. KLEIN DEPT. STORES, INC.
NEW YORK, N. Y.

Timely Editorial

Dear Sir:

This is just a line to compliment you on your editorial entitled Time for Shock Treatment [BW—Oct.15 '60,p198]. . . .

H. H. COWIE

CHAIRMAN
CURTIS 1000 INC.
ST. PAUL, MINN.

Makes Good Sense!

Dear Sir:

Congratulations on the article How to Make Sense Out of the Numbers [BW—Oct.22'60,p160].

Best summary and evaluation I've ever seen of the various government bureau statistics. Particularly good: the What It Measures and How Good Is It? summaries. . . .

STANLEY M. HEGGAN
CHICAGO, ILL.

CONDENSED BALANCE SHEET

December 31, 19 60

ASSETS

CURRENT ASSETS

Cash	\$26,762,826
Temporary Investments	6,481,750
Receivables	51,718,610
Inventories	64,959,465
Prepayments	1,860,725

TOTAL CURRENT ASSETS

Long Term Investments	\$151,780
Plant and Equipment	30,750
Goodwill	74,250

\$151,780

30,750

74,250

\$259,780

LIABILITIES

CURRENT LIABILITIES

Notes Payable	\$ 9,153,509
Accounts Payable	16,355,127
Accruals	8,215,650
Prepaid Income	9,948,956

TOTAL CURRENT LIABILITIES

Fixed Liabilities	\$ 43,671
-------------------	-----------

\$ 43,671

82,621

\$126,290

TOTAL LIABILITIES

Capital	\$100,000,000
Surplus	33,492,533

\$133,492

\$259,780

CAPITAL AND SURPLUS

RATIOS

Current assets to current liabilities	3.51 to 1
Total liquid assets to current liabilities	2.01 to 1
Capital and surplus to total assets	.51 to 1

154783406
43673242

16012932*

26762826
6481750
54718640
87963216*

87963216
43673242

17999958*

133492533
259789281

99999969*

Tape on a report!

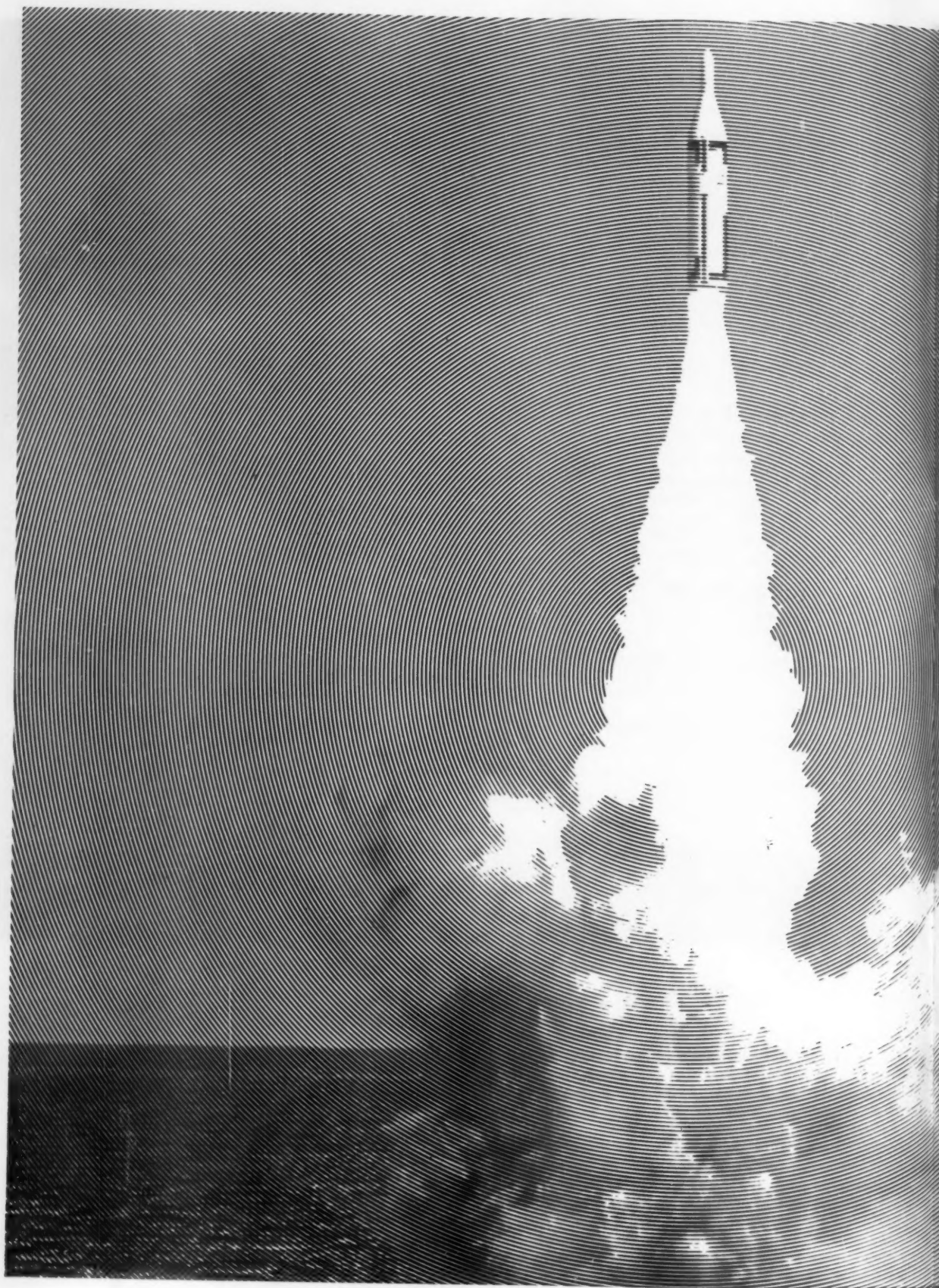
Convincing way to substantiate facts with clearly printed proof

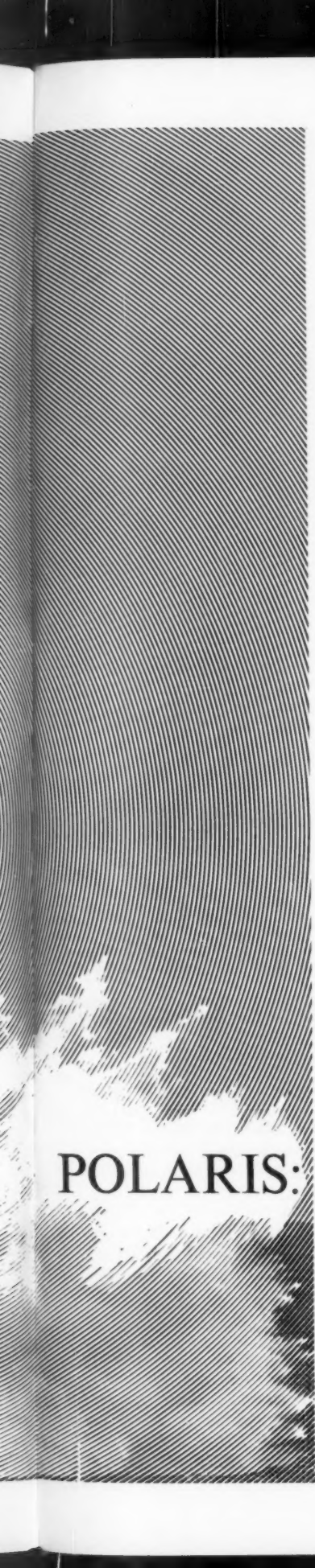
The exclusive control key on the Remington Rand "99" Calculator makes it possible. It eliminates confusing figures, makes operation simpler. Result: a printed tape with answers anyone can understand. Another outstanding development from Remington Rand . . . pioneer of the electronic computer and other leading machines for business. For complete information, call your nearest Remington Rand office or write: Room 110-BW, Remington Rand, 315 Park Ave. South, N.Y. 10.

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DIVISION OF SPERRY RAND CORPORATION







Three years ago, the U.S. Navy handed American scientific and industrial leaders a formidable task. Problem: To develop and build a submarine-launched, intermediate-range ballistic missile with extreme accuracy and dependability.

Hundreds of organizations over the land pooled their talents and resources—under the direction of the Special Projects Office of the Navy.

The result: Polaris—today one of the world's most potent defense weapons. A unique marriage of space and sea power and a unique marriage of scientific and industrial ingenuity.

The Lockheed-built Polaris Missile has demonstrated accuracy in a great number of test firings using the guidance system designed by the MIT Instrumentation Laboratories.

Hughes initially contributed to the success of these firings as one of the suppliers of the electronics for the guidance system produced by the General Electric Company.

Hughes is today a prime contractor for production of complete Polaris guidance systems. These systems, incorporating Minneapolis-Honeywell produced inertial platforms, are now being built at the Hughes El Segundo plant.

The Polaris Missile is a major factor in the Free World's effort to maintain the peace. Patrolling deep beneath the seas, the Polaris Missile System will be a mighty, but silent force for freedom.

***VIDEOSONIC** assembly techniques, developed by Hughes manufacturing engineers, are the most important advance in production line flow since the standard assembly track. Used to build Hughes Polaris guidance systems, these techniques regularize flow, maintain reliability and reduce worker fatigue.*

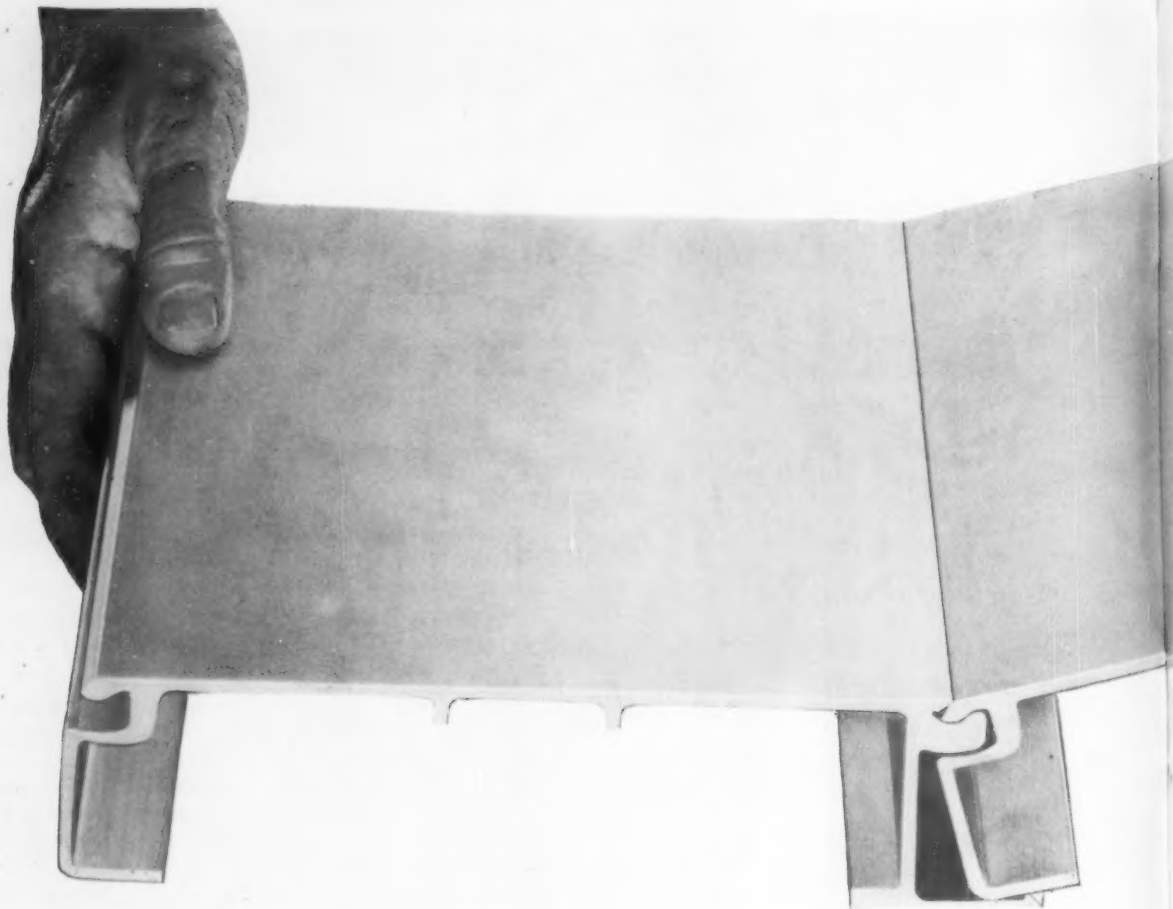


POLARIS: Product of free people pulling together

Creating a new world with electronics

HUGHES

HUGHES AIRCRAFT COMPANY



New way to build a box—or a wall Reynolds Aluminum Snap-Lock

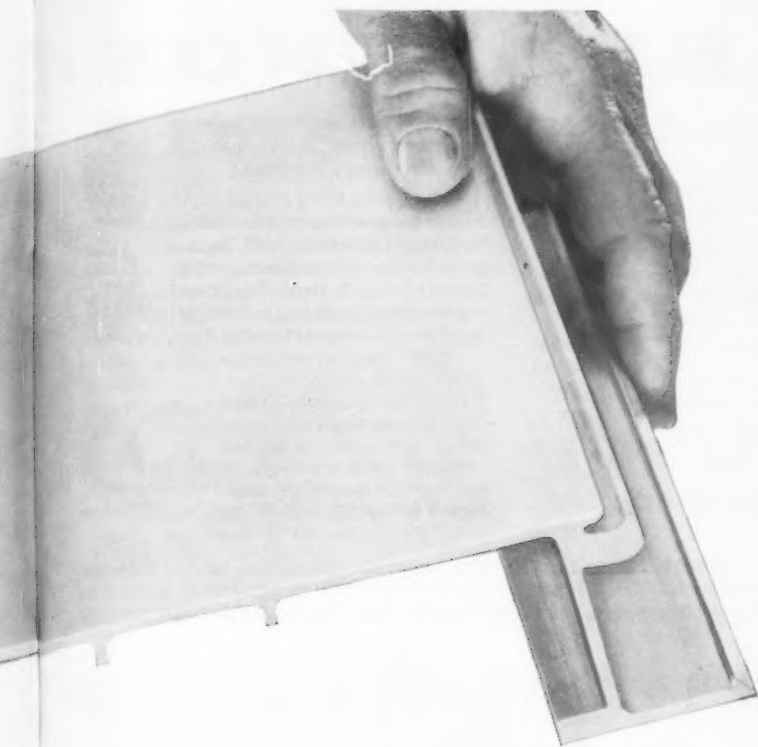
Here's a new, cost-cutting way to put a panel together—a panel made with strong lightweight, rustfree Reynolds Aluminum. The new fabricating method: Reynolds Aluminum Snap-Lock Extrusions.

With these extrusions, and their exclusive interlocking design, you can build a strong, rigid wall, or floor, or panel by just *snapping* sections together. You eliminate a lot of welding and a lot of rivets; and the joints are secure, strong, and permanent.

The panel you build with Reynolds interlocking extrusions is really solid, because the design provides an integral reinforcing brace at every joint . . . or between joints as required. Chances of a Snap-Lock Extrusion panel warping or buckling are virtually nil.

You can achieve major production savings with fast, efficient snap-lock fabrication methods, but the savings don't end there. With Reynolds Aluminum extrusions, you can pre-fabricate sections of panels conveniently in a shop, assemble or erect the sections easily and quickly at the job site.

Although the basic idea behind all Reynolds Snap-Lock Extrusions is the same, the design can be varied to meet specific job requirements. Already, variations of the interlocking extrusion idea have proved themselves, in production and performance benefits, in such wide-ranging uses as electrical substations, truck and refrigerator car flooring, ship deck-houses, airplane hanger doors, and temporary or portable tool houses.



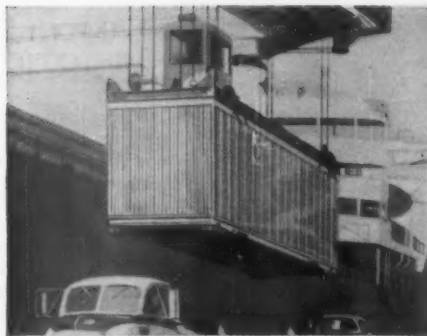
(don't weld it or rivet it ... snap it!)

-or a floor Extrusions

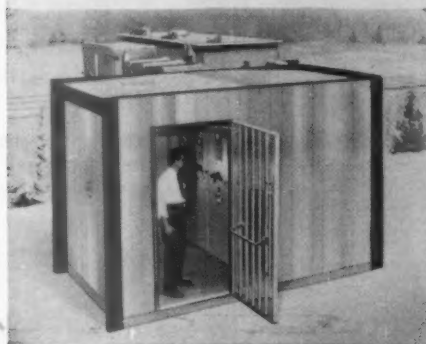
If you have a "box" to build (from a small container to a warehouse building) or a floor or a panel of any kind, see how many rivets you can save, and how much welding. Investigate Reynolds Aluminum Snap-Lock Extrusions. For details, contact your local Reynolds office, or write *Reynolds Metals Company, P.O. Box 2346-GA, Richmond 18, Va.*



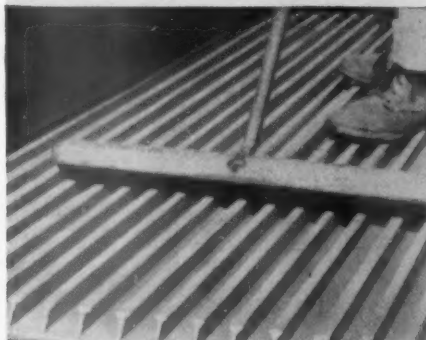
Watch Reynolds new TV show
"Harrigan & Son", Fridays;
also "All Star Golf", Saturdays—ABC-TV



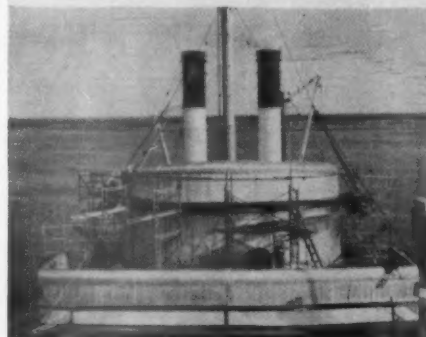
Containers made with Reynolds interlocking extrusions combine aluminum's light weight with extra strength and rigidity.



Electrical substation built with Reynolds interlocking extrusions is strong, rigid, thanks to integrally-reinforcing extrusion design.



Truck flooring made with Reynolds' extrusions is available in a range of designs using interlocking principle.



Reynolds interlocking extrusions cut welding time, fabrication and erection costs in construction of water-tight ship deckhouse.

ANTI-FRICTION **BEARINGS:**

When the countdown is on . . . the success of each missile depends completely on split-second operation of all moving parts: aboard the "bird" or among the actuators, erectors, drives, and support equipment hinges — friction must be conquered.

And in the entire missile and defense industry, there is no more sweeping capability in *friction fighting* than Torrington's.

On these pages, you can spot some of the vital missile support missions made to order for TORRINGTON BEARINGS. Here's your key to a few: missile hold-down clamps and actuators 1; missile erectors 2; missile handling equipment 3.

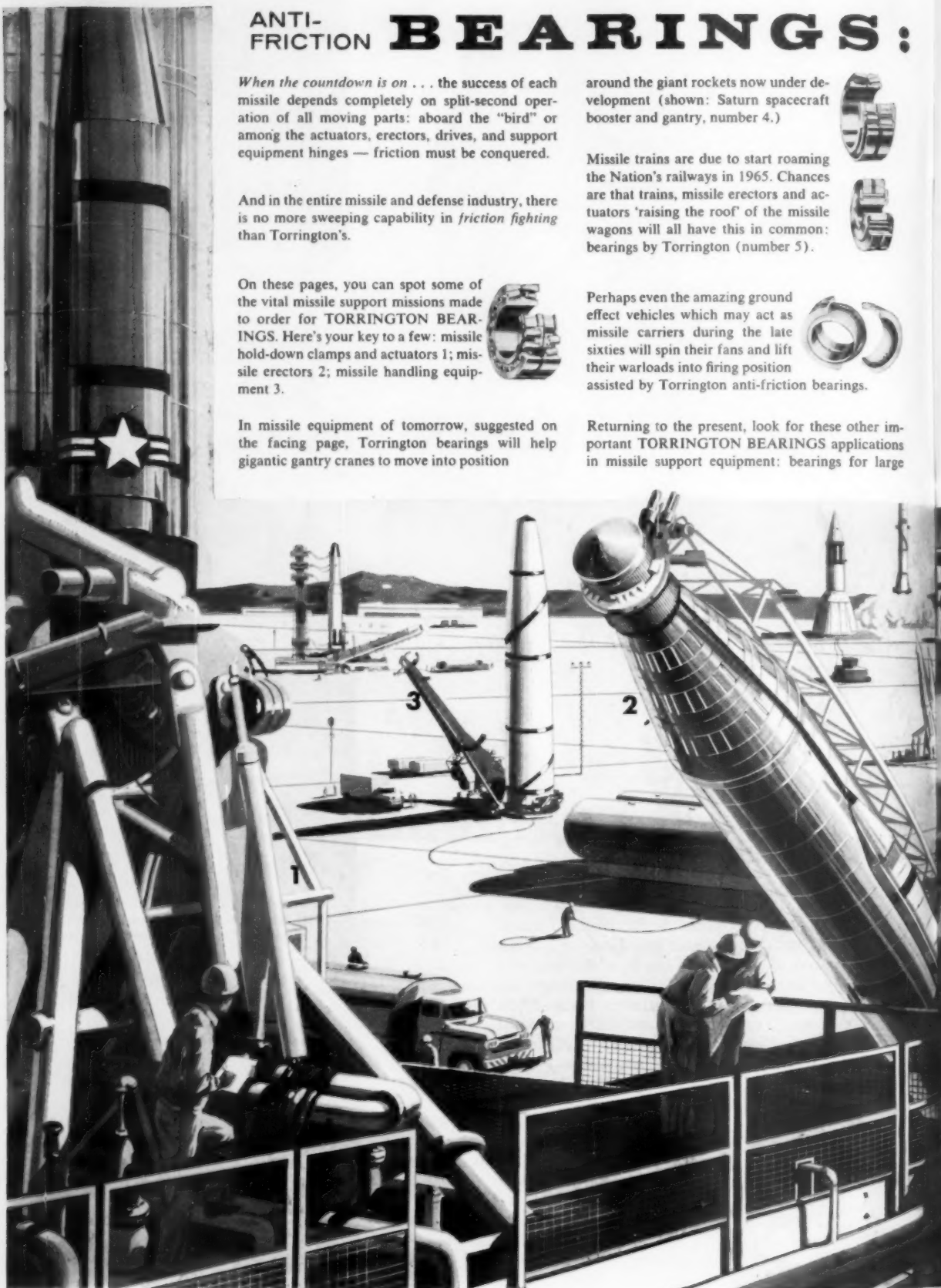
In missile equipment of tomorrow, suggested on the facing page, Torrington bearings will help gigantic gantry cranes to move into position

around the giant rockets now under development (shown: Saturn spacecraft booster and gantry, number 4.)

Missile trains are due to start roaming the Nation's railways in 1965. Chances are that trains, missile erectors and actuators 'raising the roof' of the missile wagons will all have this in common: bearings by Torrington (number 5).

Perhaps even the amazing ground effect vehicles which may act as missile carriers during the late sixties will spin their fans and lift their warloads into firing position assisted by Torrington anti-friction bearings.

Returning to the present, look for these other important TORRINGTON BEARINGS applications in missile support equipment: bearings for large



TURNING POINT IN MISSILE PROGRESS

radar tracking equipment and radar azimuth systems (the largest radio telescope in the world — the Navy's 600-ft. dish now being built in West Virginia — will turn to the stars on specially designed and built Torrington bearings). Blast doors on Titan and Atlas silos will swing on Torrington bearings — and deep in the hardened missile sites, large Torrington bearings equip the crib suspension cylinders, which protect the missile and its launcher from the shock of hostile nuclear weapons. Hydraulic cylinders, drives, and cable sheaves operate freely thanks to Torrington.

Aboard the missiles themselves, other Torrington products do more than their share for performance and reliability. Remarkably strong for their size and weight, Torrington needle bearings take the friction

out of missile actuators and control surface supports.

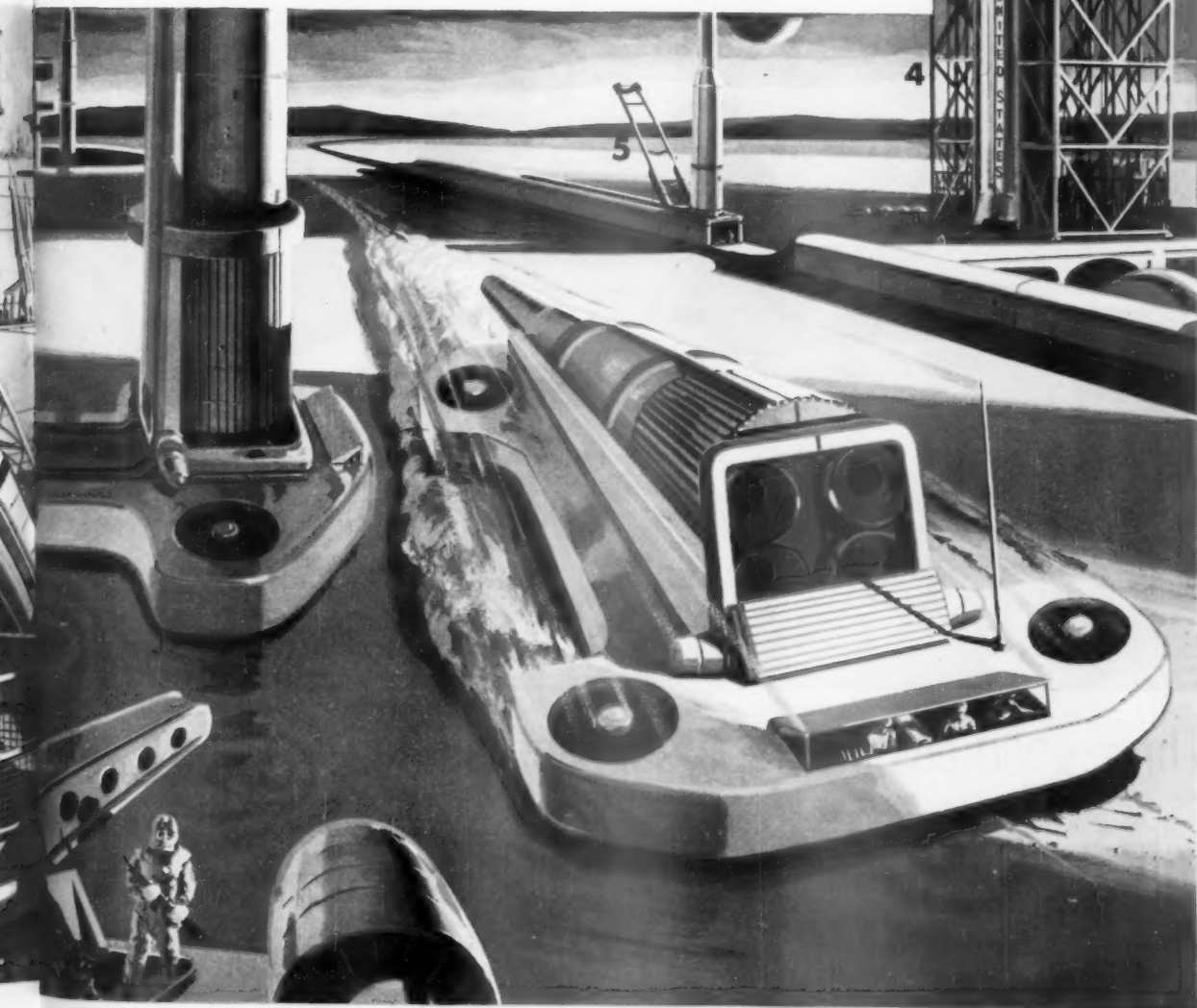
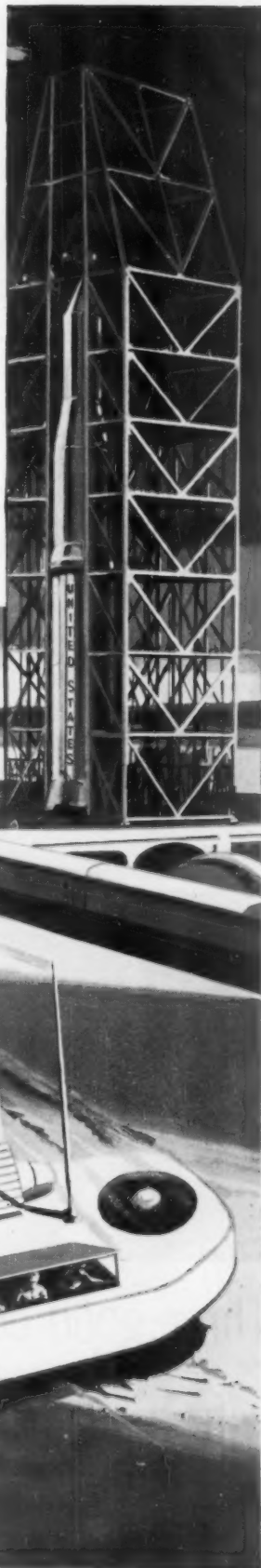
Current Torrington research and development programs have brought about needle and roller bearings ideal for spacecraft control surfaces, and missile hot spots — rocket nozzles, combustion chambers, ram-jets and afterburners. Efficient operation at 1200°F and beyond are about to be conquered.

In helping missiles move about more easily, launch successfully, fly more reliably and accurately, Torrington bearings are playing a pioneering role in the Space Age.

Send for your special report on missile and space age bearings

TORRINGTON BEARINGS

THE TORRINGTON COMPANY Torrington, Conn. • South Bend 21, Indiana





Three good customers, a supplier, and an anxious wife tried to reach this man in vain while he used his telephone for the inside call pictured above.

When a company relies on the telephone for both outside AND INSIDE communication, key people cannot be reached $\frac{1}{4}$ to $\frac{1}{3}$ of the time.

This is costly!

Add a separate inside communications channel...an Executone Intercom and Sound System...and key people can always be reached. Immediately, you receive at least six benefits:

1. END TELEPHONE TIE-UP: In most organizations, $\frac{1}{4}$ of the telephones are "busy" from 10:30 a.m. to 12:30 p.m. and 1:30 p.m. to 4:30 p.m. Key people cannot be reached. Customers, prospects, suppliers are delayed, frustrated. Insiders too. Executone recognizes that inside communication is so vital it requires a separate, private, courteous channel. This ends frustration, confusion, losses caused by the one-instrument, one-channel method. Lets outside calls come through.

2. LOCATE EXECUTIVES: In addition, from $\frac{1}{4}$ to $\frac{1}{2}$ of key people are "away from their desk" during busy hours. Not available. With courteous, modulated Executone paging, important messages reach them. They're always available for the important jobs!

3. IMPROVE CUSTOMER SERVICE: With Executone installed, the customer can usually reach the man he telephones.

Then, no need to hang up on him or put him on a "dead" line to get the information he wants. Just call Shipping, Accounting, Production Control on the inside channel. There's the answer!

4. KEEP WORKERS WORKING: When a worker needs material, tools, advice, he doesn't wait. He reports in by Executone. Gets what he needs. Back to work.

5. SPEED ANNOUNCEMENTS: The Executone System is flexible. Use it for background music, time signals, fire warnings, plant protection, important announcements. Great aid to management.

6. GET QUICK, ACCURATE TIME AND COST DATA: Workers report, by Executone, such data as time applied to each job. Central Timekeeping gets quick, accurate information, needs less personnel, gets data faster for decisions, reduces idle time between production jobs.

Send for "Management File on Communications", describing how companies use Executone Systems to improve profit opportunities.



Executone

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|--|--|
| <input type="checkbox"/> 1. Ending telephone tie-up | <input type="checkbox"/> 5. Speeding announcements |
| <input type="checkbox"/> 2. Locating personnel | <input type="checkbox"/> 6. Getting cost data quickly |
| <input type="checkbox"/> 3. Improving customer service | <input type="checkbox"/> 7. Inter-office communication |
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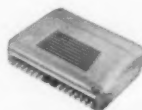
HOW TO LOSE A \$50,000 ORDER!



Business blows a fuse when you can't get the people you want *when* you want them. Besides losing valuable orders you pay a heavy premium in wasted executive time and talent. But outgrown business communications is an ailment that can be cured easily.

Simply call in your Stromberg-Carlson Communications Consultant. Without obligation he will make a thorough analysis of your present set-up. Completely objective, he can come up with exactly the right solution to your problem. How so? Because Stromberg-Carlson—and only Stromberg-Carlson—offers a complete range of communications equipment, including telephone, intercom, selective and conventional paging systems.

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STROMBERG-CARLSON
A DIVISION OF **GENERAL DYNAMICS**

BUSINESS OUTLOOK

BUSINESS WEEK

NOV. 5, 1960



Business has to stabilize, presumably, before it can rise. And maybe the signs aren't frequent or robust as yet, but there are some:

- Construction probably is poised for an upturn; it has been stable since last spring and contract awards point up.
- Factories' new orders have stopped falling, at least temporarily.



Construction's course, from September to October, was downward by just about the amount that would usually be expected for the time of year. This means the tracing of a straight-line (on a seasonally adjusted basis) at an annual rate of \$55½-billion for six months.

October, incidentally, pulled ahead of a year ago—the first month since February to show year-to-year improvement. But this loses luster when it it recalled that volume declined sharply after mid-1959.

Public construction has been maintaining a strongly rising trend since early in the year. October, in fact, weighed in at a seasonally adjusted annual rate more than \$1.8-billion better than January, attaining the highest level in the last 16 months.

Private construction, on the other hand, has been moving erratically downward, mainly due to the slide in homebuilding.

Work put in place on new homes in October is valued at an adjusted annual rate of \$20.9-billion by the Census Bureau.

That's the lowest for 1960 to date and \$5½-billion below 1959's high.

This reflects the tight rein mortgage rates are holding on individual homes. By contrast, contracts for apartments and subdivisions topped \$5.2-billion for the 10 months, 32% ahead of a year ago.

Contracts let for all types of heavy construction so far this year are 13% ahead of the same period of 1959, according to Engineering News-Record. And the weekly average for October was ahead by 50%.

Figures compiled by the F. W. Dodge Corp., which include all types of housing, don't make quite such a strong showing. Nevertheless, the latest report covering September shows the month 2% ahead of last year. For non-residential alone, the Dodge figure puts September ahead by 12%.

Highway construction has pulled sharply ahead of last year in the last three months, and construction experts see more gains ahead.

Government estimates of the value of work put in place averaged an annual rate of \$6-billion in August, September, and October. And contract awards for the fourth quarter are expected to set a record; there's still something like \$1¼-billion of federal money available for contracts to be let between now and the end of the year. Though some of the federal money may not be used, most of it will.



New orders for manufactured goods have made a reputation in the post-war era for marking new trends pretty emphatically—and of doing so fairly well in advance of swings in business activity.

BUSINESS OUTLOOK (Continued)

BUSINESS WEEK

NOV. 5, 1960

When the value of orders booked falls below the value of goods shipped, thus sapping backlogs, economists become particularly concerned.

When it's the other way round—when orders exceed shipments—then things begin to look rosy rather quickly. There were indications, in August and September, that some such turn might be taking place.

Manufacturers booked just about as much new business as the value of the goods they shipped in August. Then, in September, orders pulled a little ahead of shipments (all figures seasonally adjusted).

It was the first time the gap had been on the favorable side this year. Even more impressive, to many observers, was the fact that improvement came mainly in durable goods (where the trouble had been earlier).

New orders for durables, in fact, are back up where they compare creditably with most past periods except for 1956 and pre-strike 1959.

In comparing new orders with factory shipments, it must be admitted that bookings did not pull ahead entirely under their own power. They were aided by what might be called backwardation in shipments.

After new orders fell, manufacturers began to curtail output. Shipments, in their turn, fell over from \$15.7-billion in February to an average of a little over \$14-billion a month for the third quarter.

That helped new orders a lot in catching up and taking the lead. Now the nagging question is whether orders will be able to stay ahead.

This upturn in new orders didn't come any too soon to suit the producers of durable goods. They had watched their backlog of unfilled orders melt from \$51½-billion a year ago to \$47½-billion.

That isn't a huge drop, percentagewise. But any decline in backlog is a danger signal and, if continued, must mean a cut in operations.

Manufacturers of durable goods have been struggling for months to cut their inventories, but results have been slow in showing up.

Their stocks continued to build up until May (as suppliers shipped on orders placed earlier). The peak is estimated by the Dept. of Commerce at \$32.3-billion—nearly half a billion above the 1956 top (without allowance for price changes between 1956 and 1960).

Since the high in May, stocks have been pared to \$31.6-billion.

Inventory policy isn't likely to shift broadly to the buying side any time soon. Yet the step-up in military ordering will make itself felt (if it hasn't already) in stocking by affected industries.

While it is true that military expenditures aren't yet rising substantially, the mere fact of more orders sets things in motion. And the activity will help specifically the suffering durable goods industries.

Increased military procurement is getting attention elsewhere than in industry, you may have noticed. Seven of the ten most active issues on the New York Stock Exchange on Tuesday were shares of companies that always figure prominently in military production.

Contents copyrighted under the general copyright on the Nov. 5, 1960, issue—Business Week, 330 W. 42nd St., New York, N. Y.



The Periodic Table lists all the known elements of the world we live in . . . more than half of them used by Union Carbide

This is the world of Union Carbide

. . . bringing you a steady stream of better products from the basic elements of nature

You're probably one of the millions who have used such Union Carbide products as PRESTONE anti-freeze, EVEREADY flashlights and batteries, or PYROFAX bottled gas. But the major part of Union Carbide's output is in basic materials, employed by more than 50,000 industrial customers to fill your life with useful things.

The 70,000 people of Union Carbide operate more than 400 plants, mines, mills, laboratories, warehouses, and offices in the United States, Canada, and Puerto Rico. With these vast resources and skills, and the help of 35,000 suppliers, they create a variety of products in the fields of metals, carbons, gases, plastics, and chemicals.

It is men and women working together to provide new and better materials that gives full meaning to Union Carbide. And the people of Union Carbide, backed by 128,000 stockholders, will go on bringing you the necessities and conveniences that will help keep our standard of living the highest in the world.

Periodic Chart ©Welch—Chicago

The terms "Eveready," "Prestone," "Pyrofax," and "Union Carbide" are trade marks of Union Carbide Corporation.

Learn more about the products of Union Carbide and its work in atomic energy. Visit the science exhibit at 270 Park Avenue, New York, or write for booklet "The Exciting Universe of Union Carbide." Union Carbide Corporation, 270 Park Avenue, New York 17, N. Y. In Canada, Union Carbide Canada Limited, Toronto.



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ALL-THE-WAY NEW TO SAVE IN 4 BIG WAYS!



New Van Turn an Econoline Van loose on your route and watch delivery costs plummet! Cargo space is up to 57-cubic feet bigger than conventional ½-ton panels! Big double doors at both rear and curb side give real load accessibility! Floor is level, too—no rear engine hump! And there's three feet less length to turn, park, or garage!



New Station Bus Nothing matches this beauty for comfort, room, and low costs! There's room to spare for eight with picture-window visibility! Converts to load hauling in just a few minutes. And what loadspace—twice that of the "biggest" station wagons! Best yet, it's priced below even compact station wagons!*

New Pickup Meet a revolutionary new pickup that saves more ways than any truck you've known! Modern cab-forward design pares away over a thousand pounds of dead weight, yet you get as much payload capacity as many standard ½-tonners! It's three feet shorter over-all, yet there's a big 7-ft. box with 73 cubic feet of load-space! You get lively performance in a proven Falcon Six that can give up to 40% better gas mileage . . . saves up to \$215 a year! And, the best news, it's priced below many standard ½-tonners!* See it at your Ford Dealer's!

*Based on a comparison of latest available manufacturers' suggested retail delivered prices.



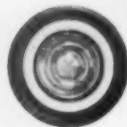
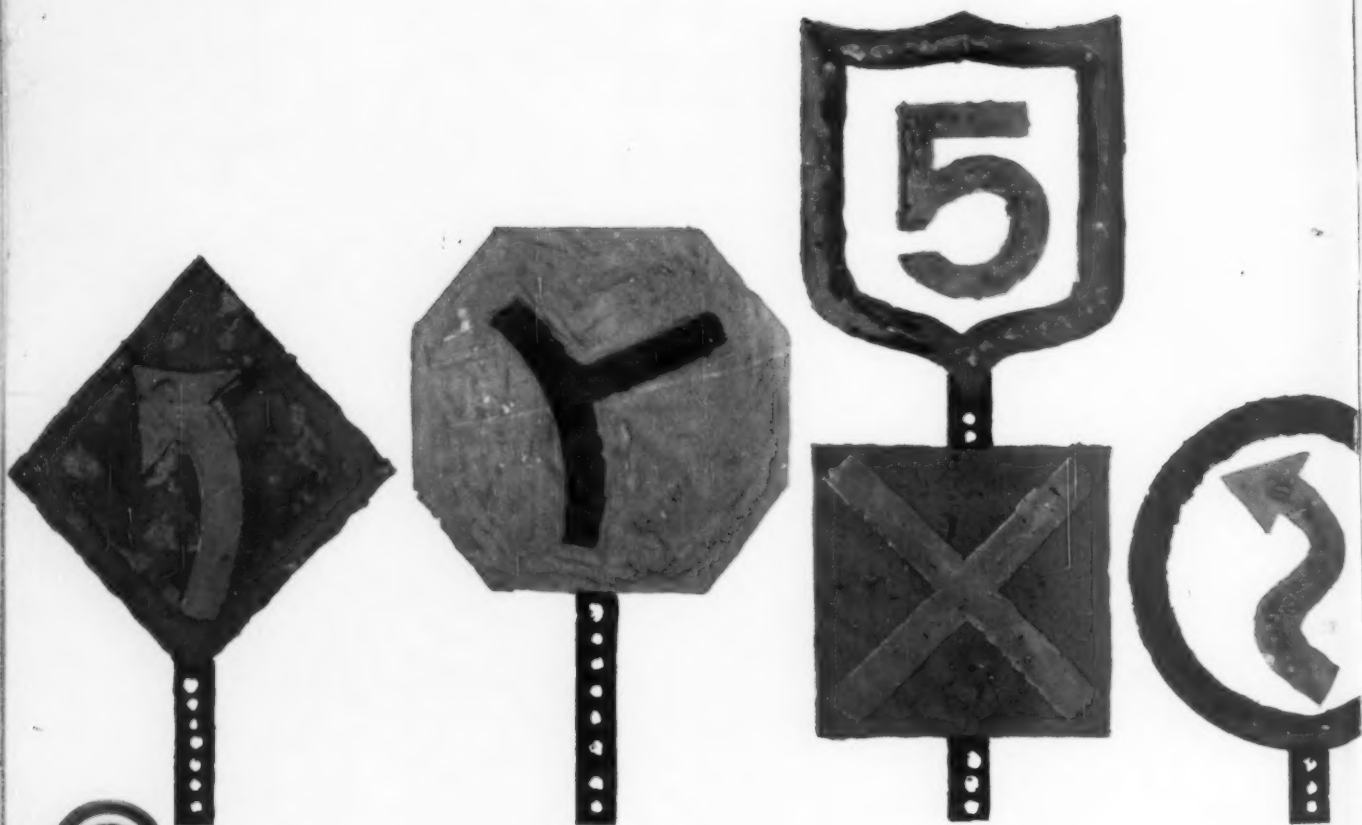
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Goodrich-Gulf Chemicals, Inc.

THE ONE TO WATCH FOR NEW DEVELOPMENTS



As the campaign gets up momentum for the last lap to Election Day, the candidates bring . . .

Economic Issues to the Fore

In the last days of the 1960 Presidential campaign, national economic policy has become a central issue between the candidates. The issue flamed up because of (1) the gold rush in London and (2) the sag in the U. S. economy.

Both candidates sought to make political capital out of both events:

Nixon blasted Kennedy for causing the gold rush, said Kennedy's "program of flagrant fiscal and monetary irresponsibility is giving cause for grave alarm at home . . . and abroad . . . about the future of the dollar."

Kennedy blasted Nixon and the Republicans for not overcoming the underlying cause of the gold rush—the chronically heavy deficits in the U. S. balance of payments.

Kennedy argued that the Republicans were responsible for bad business, "the third recession in seven and a half years." Republicans insisted that business was still moving on a high plateau—and would get better, if Kennedy and his supporters wouldn't persist in talking the country into a recession.

• **Serious Effort**—But the economic issues between the candidates were not simply those of a political dogfight.

They represented serious efforts by both men and by their advisers to lay out economic policies that would see the nation through the new era that had bleakly dawned—an era of dollar glut instead of dollar gap. The candidates sought policies that would turn the rapid technological progress and rising productivity of this new era to the advantage of the economy and promote its faster growth, instead of contributing to chronic unemployment.

The problem facing the next administration is simultaneously to prevent stagnation in the domestic economy and to block further deterioration in the international financial position of the U. S.—so as to break out of this pocket into a new period of growth.

• **New Positions**—This week both candidates—and their advisers—spelled out new positions for solving those problems.

In Kennedy's case there was a major shift of policy: Kennedy put himself squarely on the record as intending to defend the "value and soundness" of the dollar. This represented a major swing back toward a middle-of-the-road position, from the New Dealish line he

had taken since the campaign began—a line that had stemmed directly from the Democratic platform.

But Kennedy's shift did not junk his "growth" line. Rather, it was a long-delayed recognition of the critical importance of foreign economic problems for the domestic policies of the next administration. Kennedy's statement—drawing on the advice of his chief economic consultant, Prof. Paul Samuelson of Massachusetts Institute of Technology—was a sophisticated plan for moving simultaneously on the balance-of-payments and growth problems.

Nixon, too, sought to improve his economic posture this week. He emphasized his willingness to enlarge federal activity on a wide variety of programs for helping old people and developing natural resources.

Both Nixon and Treasury Secy. Robert B. Anderson also continued to bear down hard on the balance-of-payments problem—and to stress the importance of their anti-inflationary, sound money policies in preventing a possible international crisis.

The test was still one between the liberal Kennedy and the conservative

Nixon (BW-Oct. 29'60, p90). But Kennedy had shifted markedly toward the right, and Nixon had shifted a notch toward the left.

I. Kennedy and the Dollar

Kennedy blamed five factors for the deterioration of the U.S. balance of payments:

- Heavy U.S. military and economic aid commitments abroad—and payments for our own overseas military forces—which involve outflows of funds greater than trade surpluses can cover.

- Slowness on the part of the U.S. to negotiate the removal of outdated restrictions, in the form of tariffs and quotas, on the import of U.S. goods into foreign countries. These barriers are the residue of the days of the dollar gap.

- Barriers imposed by other governments on the movement of foreign capital to investment in the U.S. These, too, are hangovers from the dollar gap period.

- Too little progress by the U.S. in getting its allies to pick up their share of the burdens for military programs and foreign aid.

- Misconceived monetary policies by the Federal Reserve. Kennedy blamed the Fed for clinging to the "bills only" policy—under which the Fed's Open Market Committee ordinarily buys only short-term bills, rather than longer-term obligations, in carrying out the Fed's monetary policy. Yet, said Kennedy, short-term obligations are the main object of foreign investment in the U.S. So the drop in short-term rates, he said, "has encouraged foreign investors to take their money to other countries where the rates are higher, while long-term rates have continued to stifle the investment which would lead to great productivity and employment."

- **No Devaluation**—Kennedy laid down a program to reverse the downtrend in the U.S. balance of payments. This, he made clear, would not involve devaluation. He declared: "We pledge ourselves to maintain the current value of the dollar. If elected President I shall not devalue the dollar from the present rate. Rather I shall defend its present value and its soundness."

To attack the deficit in the balance of payments, Kennedy said he would begin "immediate and vigorous" negotiations to get foreign governments to pick up their military and economic aid burdens, and to drop their restrictions against U.S. goods and against foreign capital movements to the U.S.

- **Growth Prescription**—But such measures were only the start of Kennedy's program. Some economists now think that the U.S. dollar at the moment is a little overvalued—and that any additional domestic inflation would put it

further out of line with other currencies.

The problem, then, is not only to prevent further inflation but to bring the true value of the dollar up to its present exchange rate. In the old days this would have meant reducing the whole U.S. wage and price structure. But that kind of mammoth squeeze on the U.S. economy today seems out of the question.

Kennedy's intention is rather to defend the official value of the dollar by raising U.S. productivity. This would reduce our unit costs of production, keep our goods competitive in world markets, without subjecting the economy to a deflationary squeeze. He thus calls for policies to stimulate growth, to avoid recessions, and to check inflation.

- **Filling It**—This is a tall order. He proposes to fill it this way:

- Maintain a balanced budget "except in times of national emergency or severe recession." Kennedy says he would run budget surpluses in times of prosperity to brake inflation. He also says he would squeeze hard—along the lines suggested by the Hoover Commission—to prevent waste in government spending, by the Defense Dept. as well as other agencies.

- Adopt "a greater flexibility in the use of interest rates." Kennedy moves away from—but doesn't entirely drop—his earlier attacks on Republican "high interest rate" policy. He still blames the Republicans for relying too much on monetary policy to prevent inflation—thus necessitating too high interest rates, which put drags on long-term investment and economic growth.

- Try to coordinate monetary policy with fiscal policy to control inflation. Kennedy says he doesn't intend to change the constitution of the Federal Reserve System: "It is important to keep the day-to-day operations of the Federal Reserve removed from political pressures, while preserving the President's responsibility for longer-range coordination of economic policies."

- Have the federal government work closely with labor and management to develop wage and price policies "consistent with reasonable price stability." But Kennedy would do this "without resorting to the compulsion of wage and price controls."

- Stimulate plant modernization programs by tax revision, including accelerated depreciation.

- Push federal programs to develop "human and material resources"—including better school systems, vocational training for unemployed workers, scholarships for higher education.

II. Nixon's Moves

Before the Kennedy statement of Oct. 31, Nixon had sought to keep the label of irresponsible inflationist pinned

on Kennedy. To answer such charges, Kennedy men had fallen into the habit of referring to a "conservative" speech Kennedy had made Oct. 12 before the Associated Business Publications Conference in New York.

Nixon countered that the speech had "used many reassuring words but somehow just doesn't fit at all with the Senator's platform or his campaign dialogue on fiscal and monetary matters."

Kennedy's Oct. 31 statement went far to shelter him from this line of attack. Yet Nixon and his supporters sought still to present an even more solid and conservative position to the nation.

- **Big Guns**—In a TV broadcast this week that was regarded as an answer to Kennedy—though it was actually taped a week earlier—Pres. Eisenhower and Secy. Anderson brought up big guns to support Nixon as a champion of sound money.

Said Eisenhower: "We have been working mightily in the eight years of this Administration to do the things in our government that will help maintain a sound, honest dollar. In budget policy, this means the avoidance of deficit spending, which can lead only to inflationary pressures . . ."

Said Anderson (in response to a question as to what the Administration had done to deal with the balance of payments problem): "We have virtually brought inflation to a halt . . . In this fiscal year we will have a surplus of more than a billion dollars . . . We have insisted upon the removal of the barriers against the sale of American goods by other countries."

Anderson said that now the U.S. must insist that foreign governments remove all the barriers "which we have tolerated." He asserted that "we have worked tirelessly to bring other, more prosperous industrial countries to assume a larger share of the aid in developing underdeveloped countries"—and a larger share of common defense costs.

The problem, said Anderson, would be much more acute today had it not been for the Administration's "strong steps." And unless those policies were continued, the problem would worsen.

- **Active Line**—Nixon was fully associated with those views. At the same time, however, Nixon sought to take a more active line on growth and welfare issues.

In two "white paper" policy statements, he called for a "soundly financed plan" to extend Social Security benefits to 2.6-million elderly people not now covered, for government support of "voluntary" medical care for old people, for government-industry cooperation to meet future power needs.

Nixon also came out for federal aid to fight water pollution and for depletion allowances to encourage development of mineral resources.

The Gold Rush Slows to a Walk

The U. S. Treasury takes the steam out of speculation by encouraging the Bank of England to buy gold for arbitrage, and the Bank of England cuts its bank rate half a percent.

London's gold rush slowed to a walk this week as the U. S. and its allies made clear that they would cooperate in defending the dollar.

The first move was made by the U. S. Treasury. It "clarified" its policy on sales of gold to official monetary authorities—foreign central banks and governments.

Traditionally, the U. S. has confined itself to sales for "legitimate monetary purposes." This phrase has been left undefined, but it has generally been interpreted to mean that the U. S. will not sell gold to central banks for arbitraging in free markets—selling their gold for dollars abroad at a premium price and then replenishing their stocks by buying here at the official price. Last week, the Treasury said that it would have "no criticism" if the Bank of England, which has a policy of intervening in the London market, carries out arbitraging in order to dampen speculation.

This announcement had a much stronger impact on the speculators than the Treasury's earlier "open mouth" statement that the U. S. had no intention of devaluing the dollar by raising the price of gold. By making clear that it was prepared to feed gold out through the Bank of England, the U. S. was putting speculators on notice that there were grave risks in dumping dollars for gold. The Administration's position was bolstered when Sen. John Kennedy released a statement declaring his determination to defend the dollar (page 25).

This week, trading in London had quieted down, with gold selling around \$36 an oz. This is well above the official U. S. price of \$35, but well below the \$38 to \$40 range that prevailed before the U. S. statement (BW—Oct. 29'60, p23).

The second move was made by the Bank of England. It cut its bank rate—the equivalent of the Federal Reserve's discount rate—from 6% to 5½%. Selwyn Lloyd, Britain's Chancellor of the Exchequer, pointed out that this step did not mean "any change in our policy of restraint" at home. He clearly implied that it was made to narrow the wide spread between money market rates in New York and in European money centers.

• **Setting an Example**—Britain's reduction was an example of cooperation that the U. S. hopes that other European nations, particularly West Germany, will follow. Ever since the Federal Re-

serve began easing credit here to counter the softness in the domestic economy, there has been a large outflow of funds from New York to the high-yielding money markets in London and Germany. This outflow of dollars has increased the deficit in our balance of payments.

The Administration is not depending solely on a narrowing of the yield differential; it assumes that the spread in rates is likely to continue for some time, which means that there will still be a tendency for funds to go abroad in search of higher returns, though the narrower differential will lessen the pull. And so the U. S. is also bringing pressure on our allies to share the burden of foreign aid and defense spending, which is largely responsible for the overall deficit in our balance of payments.

• **Pressure on Bonn**—Most of this pressure is being concentrated on Germany. This week, it was revealed that Pres. Eisenhower has exchanged letters with Germany's Chancellor Adenauer, asking that the Germans cooperate to ease our payments program. This exchange is being followed up by a conference later this month in Bonn between the Germans and Treasury Secy. Robert B. Anderson and Under Secy. of State Douglas Dillon (page 119).

The U. S. and the British have been disappointed by Germany's refusal to lower its interest rates before now. But the U. S. is much more intent on getting the Germans, who have been amassing both gold and dollar reserves at a rapid rate, to help pay the military expenses of the U. S. in Germany as well as to provide funds for underdeveloped nations.

At the joint annual meetings of the World Bank and the International Monetary Fund in Washington last September, Anderson and Dillon teamed up to badger the German delegation on the need to help. They are now going to Bonn to press the Germans again on the need for action.

I. One Other Action

Still other steps are under consideration. Pentagon officials are studying the possibility of banning U. S. troops from taking their families abroad and are talking of further cutbacks in foreign purchases for U. S. bases overseas. There are also rumors that the Federal Reserve will change its own policies to help stem the outflow of dollars.

Last week, the Fed announced that it would use changes in reserve requirements rather than open-market operations in supplying funds to meet seasonal needs (BW—Oct. 29'60, p122). This was a calculated step to keep open market rates from going lower while making more funds available to stimulate business activity.

In New York's money market, there was talk that this is being followed by an abandonment of the "bills only" policy—the Fed's practice of confining its open market transactions to 91-day Treasury bills, the shortest-term government obligations.

• **Fed Policy**—The Fed's announced policy is that it deals in "bills preferably." But in practice it has bought and sold nothing but bills, except in a few isolated "emergency" situations when it declared that it was making a departure. Critics of "bills only" have pointed out that, by concentrating its trading in this area of the market, the Fed tends to make the short-term rate lower than if it followed a more flexible practice. Thus, it is actually widening the spread between rates here and abroad.

Fed officials refuse to say whether a change is in the making. But some dealers think that the Fed is on the verge of shifting in order to help close the yield gap. This, of course, would lessen the incentive to send money abroad.

II. Buying Time

Foreign central bankers and international financiers think the Treasury's clarification of its gold selling policy will serve to cool down speculative fever—and foreign government fears—over the short run. In fact, many bankers have been privately critical of the U. S. for not acting earlier. They take the view that if the Treasury had supplied gold to London when speculative demand first appeared, it could have prevented the kind of stampede that subsequently developed.

Treasury officials won't concede that the gold rush could have been stopped. As they see it, demand came not only from speculators but also from the nationals of countries—such as France, Belgium, and the nations of the Far East—where domestic conditions and international tensions are encouraging a flight to gold.

But there's no doubt that the Treasury's willingness to supply gold for arbitrage purposes is buying time to solve the over-all balance-of-payments problem. It assures central bankers that the U. S. is prepared to defend the dollar.



OHIO switch in Nixon plans adds unscheduled speech to already crowded Toledo calendar. Nixon's advance man, Tom Sedlar (left) arranges details, in hastily set up press room, with heads of journalistic society, Sigma Delta Chi—who got 48-hr. notice Nixon wouldn't just drop in on meeting but would make major speech.



NIXON, arriving at Toledo railroad station on last lap of two-day Ohio tour, gets glass key to city from Mayor Michael Damas (a Democrat), waves aloft tiny, gold-plated Jeep, symbolizing city as home of vehicle. Top Toledo affair was to have been GOP rally at university, but switch put spotlight on SDX meeting.



SPEECH to SDX—which had to change hotels to seat bigger crowd—set forth Nixon's policy on atomic energy and nuclear test ban.



LEAVING national journalism society's meeting, Nixon is off for vote-getting talk—his 11th speech in Ohio that day—to 8,000 Republicans at University of Toledo. Next day: Michigan.



HE ALSO SPOKE—Art Buchwald, author, humorist, and New York Herald Tribune columnist, billed as top speaker at Sigma Delta Chi chapter's monthly meeting, had to take second place.

Candidates Step Up Pace to Win



KENNEDY foray into northeastern Pennsylvania took him to some of state's depressed areas, brought some serious notes. At Shamokin, Mrs. Julia Oshinski asked about son, whose C-130 vanished over Armenia two years ago; Kennedy promised to look into it.



HANDSHAKING, with these roadworkers near Lenhartsville in Berks County, with farmers who congregated at crossroads, with anyone along the road, was a principal activity of Kennedy's 15-hr. trip. At the end, his hands were scratched, sore, bloody.



POLITICKING never stopped; at a filling station near Mt. Carbon Kennedy's press chief, Pierre Salinger, conferred about the "ultimatum" telegram to go to Nixon on a possible fifth TV debate.



PENNSYLVANIA motorcade inched along 170 mi. of city streets and country roads—this is Pottsville—past an estimated half million persons. Kennedy's final talk was at 1:15 a.m.—hours late.



IMPROMPTU speech at Nanticoke, in coal mining area, got laugh when candidate started off with "My name is Kennedy."

Key States

GM Bucks Buyer Resistance

● Sales of industry's new models look good on paper, but dealers claim that prospects are hedging against a possible recession.

● To pep up the public's enthusiasm for autos, General Motors is staging a new version of its Motorama.

● And the company will invest \$1¼-billion next year in its operations—another move to bolster business confidence.

General Motors Corp., the world's biggest manufacturing company, this week trotted out its biggest guns to buck a recession state of mind. It opened a new version of its Motorama—that elaborate and decorative product display last shown in 1958—and its chief executive officer announced that “the economy should be in a strong position to expand in 1961.”

GM's actions are unabashedly contrived to give stability to a wishy-washy economy and to spark up 1961 auto sales that are looking good only on paper.

GM executives seriously believe that the Motorama stirs up excitement about automobiles—and dealers are telling *BUSINESS WEEK* there's not enough excitement about cars. Further, the executives believe that their company's activities in the national economy are important enough to have a ripple effect on business confidence.

That's why Chmn. Frederick G. Donner told a New York gathering of the country's most important and influential businessmen that GM next year is investing \$1¼-billion in its worldwide operations.

• **GM's Testimony of Faith**—Donner doesn't concede that the economy is on a downward curve. Business has been going through an inventory adjustment that has been largely in manufacturing. So just in case anyone is getting gloomy about the immediate future of business, Donner says the \$1¼-billion GM will spend next year “testifies to our faith in the continued economic progress of this country.” The fact that next year's expenditure may have been earmarked several years ago doesn't detract from Donner's profession of faith.

• **Repeat Performance**—To some GM people, the important thing was to have Donner stand up and be counted right now—when sales of new cars are in a sort of hovering attitude, ready to move up or down depending upon the consumer's air of confidence. In 1955,

former Pres. Harlow H. Curtice made a “GM bets a billion” speech and has always thought this helped create the confidence that was partly responsible that year for booting auto sales to an all-time high. “Consumer confidence,” says Donner, “is the willingness of the consumer to commit his future income to purchase durables.”

This year, talking to dealers around the country, as *BUSINESS WEEK* reporters did early this week, you get the feeling that there isn't too much eagerness to commit future income for the purchase of automobiles.

I. Foggy Future

There's a seeming contradiction in reports from retailers. Last week, the factories were reporting that what the dealers told them indicated that in the second 10 days of October total new car sales shot far ahead of a year ago. But around the country, excepting in San Francisco and scattered Chevrolet and Chrysler-line dealers, the reaction was summed up by one auto man: “Ridiculous, they're kidding themselves.”

The Oct. 11-20 period was the first in which nearly all the 1961 models were on sale, and so was awaited as a possible clue to public acceptance. The figures made the factories happy, but a Chicago Ford dealer says he doesn't know what the factories consider a good introduction. “The factories sell to us, we have to sell to the customers, and the factories don't have to trade in.”

• **Dealers Quibble**—Probing deeper with dealers, you find the conflict. New car sales have been high—but many have been leftover 1960 models. Sales of the 1961 cars have been spotty, with a considerable number of dealers not yet having a balanced selection of types. So, few dealers are yet certain of what kind of auto year is ahead. An Atlanta Chevrolet dealer speaks for others when he says: “The over-all interest shown in new cars is not what it was last year or the year before,

but I do think interest is gradually increasing and after the election business should get better.”

There is still a high degree of interest in the smaller cars, though. And Pontiac dealers, in particular, scent a winner in Tempest, which was making its bow in showrooms this week. Dealers in several cities reported orders in advance of introduction. There also is enthusiasm for Oldsmobile's new F-85 and the Buick Special. Indicating, however, just how unsettled the early auto market is, a San Francisco dealer reports with some surprise that he underestimated the market for the bigger Buicks.

• **More Weight**—Underlining GM's strategy at the Motorama is the simple fact that where economic conditions are sluggish, in Los Angeles for instance, new car sales are the softest. It's too early for despair, and you find practically none. The same goes for high optimism. Asks a Chicago dealer: “Is a woman ever happy with her hips? It's always a case of too much or too little.”

There is, however, one thing about the auto market that is plain even this early. It's going to take work to fatten it.

II. No Place for Amateurs

A Studebaker dealer in Seattle pondered the state of his world this week and said: “We do not excite people as we used to right after the war.” In New York, Donner was saying the same thing in a different way: “Competition is broader because today's consumer can choose a wider variety of products and services.”

One overriding impression comes through the reports of talks with dealers: The bulk of October new car buyers were people who had to buy a new car—they couldn't hold out any longer.

These people always are numerous among the post-introduction buyers. But they seem to be a larger percentage this year. The other great class of individual buyers, (the biggest class, of course, consists of fleet buyers) is made up of those who want to be first with the latest model. They generally are cash buyers, which isn't necessarily a happy situation for a Los Angeles dealer. He says: “There are two kinds of buyers now: the man with cash who is hard to deal with and the man who really can't afford to buy a new car in the first place.”

• **Hard Sell**—For a good market next year, the dealers know they have to go after the trade that doesn't go searching for a new car. More than one retailer complained about lack of floor

traffic; "no lookers," grumbled a dealer. You'll hear various reasons. The election is frequently mentioned. A Louisville dealer says consumers are trying to get all the "new compact models straightened out in their minds."

A parallel thought comes up with other dealers: There is just too much variety now and the public is confused. "It's like trying to stock enough lipsticks to please everyone, except the price is so much higher," says a Ford man in Salt Lake City.

• **Too Much Competition**—More than any time in the past few years, BUSINESS WEEK reporters heard dealers complain about competition—too many other auto dealers in their same make as well as nameplates from other factories. And again, after barely being mentioned all year long, "unethical" advertising is stirring dealer wrath. What may be unethical to one dealer, of course, may not be to the dealer who is moving cars with his ads. The criticism of advertising, though, means mainly one thing. Before the introduction period is hardly past, the dealers already are using slambang tactics.

Says a Los Angeles Ford dealer: "This hard-sell market is no place for the amateur salesman."

III. GM's \$1¼-Billion

It is precisely because the auto market needs a prod that GM's Donner used the Motorama as an occasion to talk about his company's spending for modernization, expansion, and tooling. The expenditure next year of \$1¼-billion is not unusual for GM. The company is spending nearly that much this year, and in 1955 paid out somewhat more.

The 1955 spending was largely in this country. Donner said at a news conference this week that 20%-25% of the 1961 expenditure would be overseas, which would mean spending \$300-million or more abroad.

• **Breakdown**—About 60% of the domestic spending, Donner said, will be for "facilities such as machinery and equipment"—which, generally speaking, is capital investment. The balance will be spent on tooling for new models, an expense that is charged against sales. The approximately \$600-million capital expenditure will buy some new plants—Donner wouldn't say where or for what—and modern production facilities.

The money Donner mentioned actually will be paid out in calendar 1961, although it was planned two or three years ago. Similarly, GM now has plans, and orders out for tools and equipment it will not be called on to pay for until 1962 or later. What it boils down to, of course, is that you don't stay in the auto business without continual expenditure of large sums.

Rail Merger Moves Closer

Plans disclosed by Great Northern and Northern Pacific would result in nation's longest combine. The merger is opposed by unions which fear drastic cutbacks in personnel.

The giant of all proposed railroad mergers, that between the Great Northern and Northern Pacific, moved a step closer this week. Plans for consolidating the two, plus the jointly controlled Chicago, Burlington & Quincy and Spokane, Portland & Seattle, were disclosed in a closed-door session to 90 officials from 22 unions representing 65,000 employees.

If the four get together, the resulting railroad will have approximately 27,000 miles of line, or more than double the Atchison, Topeka & Santa Fe, present champion. The big combine would extend from Chicago to the Pacific Northwest and from Duluth to Galveston.

The consolidation has troubles to overcome, however. After listening to the plan, union leaders were as determined as ever to try and block it. Now that they know where cutbacks are to come, labor officials are expected to start a "grass-roots" campaign to work up opposition by businessmen and merchants in affected communities.

• **Physical Changes**—From Chicago to the Twin Cities both GN and NP use Burlington tracks. Then the two parallel each other, though often not closely, to the West Coast. Under the merger plan a single, 2,100-mile main line would be used for most trains. All but about 300 miles of this would be the Great Northern's track, which has easier grades and curves. At least one fast freight a day would be run over the alternate route, and all present passenger schedules would be maintained over present lines. No immediate abandonment of trackage is scheduled, but a study to eliminate duplication would be made after the merger.

The plan calls for a \$40-million construction program including a \$14-million electronic switching yard at Minneapolis, another \$11-million electronic yard at Spokane, and a new freight terminal at St. Paul. Most present shop facilities will be maintained. There would be consolidation of accounting, clerical, and office staffs—presumably at the present headquarters in St. Paul where the two roads already share a building.

• **Personnel Problems**—Management estimates that some 8,100 workers would be affected by the merger, or about one in eight. Of these 2,900 would be moved to other communities and 5,200 jobs would be discontinued. It expects however, that most employees affected by discontinued jobs would be absorbed

mainly by attrition and reclassification.

Union leaders dispute this, and say the number affected may be as high as 12,000 or one worker in five. They believe that the use of a single main route will virtually make secondary lines of the rest of the system, resulting in drastic cutbacks in personnel along these "neglected" routes.

The Northern Pacific and Great Northern were jointly owned at the turn of the century by the Northern Securities Co., controlled by James Hill, builder of the GN. In 1902 Northern Securities acquired control of the Burlington. In 1904, however, the Supreme Court ordered Northern Securities broken up, although it permitted the two roads to retain their 97% ownership of the Burlington.

The GN and NP talked merger again in 1929, but plans were dropped when the ICC insisted that the Burlington would have to be sold first. Sentiment among management of the roads and in Wall St. is that chances for the merger are now "very good."

• **ICC Switch**—For one thing several railroads presently competing with the proposed GN-NP combine are, themselves, talking merger and could hardly be expected to object. For another, the Interstate Commerce Commission attitude toward mergers between large, rich roads has changed since 1929. It is not expected to insist on a Burlington spin-off as a prerequisite this time.

Objections may, however, be voiced by some Northern Pacific stockholders. The NP has huge oil, mineral, and timber holdings; and stockowners may fight for more favorable terms before agreeing to share their claim to these resources. Terms call for one share of the unified company for each share of NP stock.

Combined net income for the four roads in 1959 totaled \$70.4-million on gross operating revenues of \$735.7-million. If the merger is approved by the ICC, actual integration is expected to extend over at least five years. Eventually, operating savings before taxes are expected to total \$40-million annually.

As railroad consolidations go, this has been one of the slowest. Negotiations began in 1956. The roads do not expect to file their plan before the commission until early in 1961.

Although no name has so far been set for the unified road, the one most in favor at the moment is "Burlington & Pacific."

Political Best-Seller Reaches Stage



IN FAMILIAR SETTING reporter-novelist Allen Drury poses with producer Lawrence Carr for snapshot by Robert Fryer.

Having survived the acid test of Washington criticism, journalist Allen Drury's novel about Washington politics, the best-selling *Advise and Consent*, is well launched in its new incarnation as a play, with a film version yet to come.

Drury has parlayed his career as a Capitol Hill newspaper reporter, specializing in covering the U.S. Senate, into a fortune that will go over the million mark if the play is successful.

This week, his novel enjoyed its 64th appearance on the best-seller listing that comes out weekly. Doubleday & Co. and the Book-of-the-Month Club had sold about 500,000 copies between them; in Britain, William Collins & Sons had sold more than 55,000 copies. A condensed version racked up 2.8-million in sales through the Reader's Digest Book Club.

This week, too, the Loring Mandel adaptation of the book for the stage is playing in Philadelphia, with the New York opening at the Cort Theatre scheduled for Nov. 17. The play opened in New Haven on Oct. 10 and played for a week to sell-out houses; then it had two sell-out weeks in Washington.

• **Critical Capital**—Notices in New Haven had been good, but none of the three Washington newspaper critics gave the play much of a hand. Producers Robert Fryer and Lawrence Carr, whose last big Broadway hit was *Auntie Mame* with Rosalind Russell, said it only proved the theatre axiom that it's

rough to try out a political play in Washington. They recalled two other plays with political themes, *The State of the Union* and *The Solid Gold Cadillac*, that hadn't done well there, though they later scored in New York.

Washington residents, those in the government and those who live by government, do seem to cast a jaundiced eye toward attempts to fictionalize the real-life drama they can see free any day in Congress. Certainly, the adverse criticism of *Advise and Consent* during its Washington run boiled down to: (1) Nothing can improve on the way real live senators behave and (2) senators are invariably held up to ridicule on stage and screen, hurting their feelings and those of their friends.

Yet the criticism in newspapers and among members and friends of Congress did nothing to hurt the box office. The spacious National Theatre was sold out well in advance for opening night (pictures), and the run maintained a full house, sometimes with standing-room patrons.

It was competing, too, with another political play, *The Gang's All Here*, which the Arena repertory group was performing to full houses in a theater in the round. This play had had a short three-month run on Broadway.

• **High Hopes**—Fryer and Carr, who began to take a profit only after they have played 21 days on Broadway, believe the show will make money. They have budgeted \$150,000 to stage it and have so far committed



SENATE SUBCOMMITTEE HEARING is scene for crucial action in the play, *Advise and Consent*. Play lacks big name star, sex and humor, but producers count on public's interest in politics to keep the Cort Theatre, New York, packed with paying customers.



AT OPENING NIGHT in Washington, Drury greets Supreme Court Justice William Douglas under the marquee of the National Theatre.



SEN. J. W. FULBRIGHT said he didn't like the play's caricaturing of senators.



AFTER-THEATER PARTY with Perle Mesta as hostess brought together Drury, left; Sen. Mike Mansfield, Montana Democrat, and Nixon's campaign manager, Leonard Hall.

\$115,000. They are working with a big cast, with 23 speaking roles, but say the payroll is a comfortable \$11,000 a week, with some actors working at less than their normal rate.

Advance bookings at the 750-seat Cort Theatre assure full houses this month and next, with the help of theater parties and benefit sell-outs. Advance sale for January is good, with fewer benefit bookings, and February is sold out.

In New Haven, the play netted \$3,000 for one week; in Washington, it grossed \$94,000 for two. The producers expect to net \$7,000 a week in New York.

• **On Easy Street**—Obviously, Drury is the envy of his newspaper colleagues. They rue the fact that while they were throwing their stories away over coffee, at a press room card table, or in a bar, the retiring Drury was batting out 4,000 to 5,000 words a week in the morning before going to work.

With his knowledge of tax affairs, Drury, a 42-year-old bachelor, has also arranged his income so it won't be cut to bits by taxes.

His contract with Doubleday—which also calls for two more novels—puts all domestic book royalties into a fund from which he draws an annual income as long as there is money in the pot. This stretches out his major income from the book, bringing it into a lower tax bracket. The way sales are going—about 1,100 a day of the Doubleday hard-cover alone—he can expect to receive maximum annual income for 10 years or more.

To handle all other royalties and income from the book, play, and movie and to invest in other ventures, Drury has set up a corporation: DruKill Corp. of Orlando, Fla. He's president; his father, Alden M. Drury, a retired businessman, is secretary-treasurer, and his brother-in-law Donald Killiany gave up a career as a professional engineer to be vice-president.

To be eligible for the 52% corporate tax rate, the company must get at least 20% of its income from sources other than royalties. DruKill has bought an insurance agency in Orlando and weekly newspapers in Clermont and Groveland, Fla.

• **Many Sources**—The arithmetic of Drury's and DruKill's income works out like this:

From Doubleday, royalty of 10% for the first 10,000 copies sold (price \$5.75), 12½% for the next 5,000, and 15% for all sales beyond that.

From the Book-of-the-Month Club, a base guarantee of \$40,000, shared with Doubleday, which has long since been exceeded. Author and publisher together get 10% on the club's sale price of \$4.75 per copy.

From Reader's Digest Book Club,

an \$80,000 guarantee to author and publisher that has also been exceeded.

From sale of the book and play to movie producer Otto Preminger, a minimum of \$250,000 and a top of \$450,000, shared with the play producers and the playwright (DruKill is guaranteed \$120,000 of the \$250,000 minimum, then gets 5% royalties based on gross sales of the movie).

From Reader's Digest, an assignment as Washington correspondent with a contract guaranteeing about \$20,000 a year.

From Pocket Books, Inc., royalties from a paperback to be brought out after the hard-cover novel has been off the best-seller list for three months or sales have dropped below 1,000 copies a week (the royalty to be shared between DruKill and Doubleday).

• **First Novel**—It was a first novel that tapped this gusher. Drury began plotting his idea in 1950. In January, 1958, he sold it to Doubleday on the strength of two chapters dealing with a principal character, Senate Majority Leader Bob Munson; he drew a \$2,500 advance. Doubleday published the book in the summer of 1959; it was immediately

taken up by Book-of-the-Month and went on the best-seller list.

Mandel, who is taking his first crack at Broadway with his adaptation for the stage, has had many successes on television. He was Drury's choice to write the play, as is Wendell Mays to do the screen play. Mays adapted the best-selling novel Anatomy of a Murder for the screen.

Drury, a graduate of Stanford University, came to Washington in 1943 to cover the Senate for the United Press; after other Capitol Hill jobs, he joined the New York Times' Washington staff in 1954. He left last summer to take the Reader's Digest assignment, which permits wider traveling in gathering material for his next book.

He regards the Pulitzer Prize awarded to Advise and Consent as the highest honor a reporter-novelist could win. His personal life hasn't changed much; he still lives in unpretentious Oxon Hill, Md. He finds he's getting more social invitations in Washington, with widows and eligible daughters apparently more interested in him, but he warns that as he gets older, he gets more set in his ways.

Antitrust Trial Off a Week

Federal judge in Philadelphia gives electrical equipment companies more time to work out compromise with Justice Dept. for no-contest pleas or packaging of the cases.

Twenty-nine electrical equipment companies, charged with 20 antitrust violations, are trying this week to work out an eleventh-hour compromise with the government.

Trial of the first case, charging five companies with price-rigging and bid-fixing on sales of power switchgear, had been scheduled to open in Philadelphia last Monday. But Federal District Court Judge J. Cullen Ganey granted the companies a week's stay so company attorneys can dicker with the Justice Dept.

• **Two Goals**—Ostensibly, the delay was to permit Justice and the companies to come to agreement on the scope of the trials—what witnesses should be called and what evidence should or shouldn't be permitted. But it was no secret that the companies have two quite different major objectives:

• A compromise with the Justice Dept. permitting the companies to plead nolo contendere (no defense). This would eliminate the trials. It also might avert what the defendant companies fear most—damage suits by customers who dealt with them during the period of the antitrust violations. On the other hand, it is doubtful that the Justice Dept. would settle on such

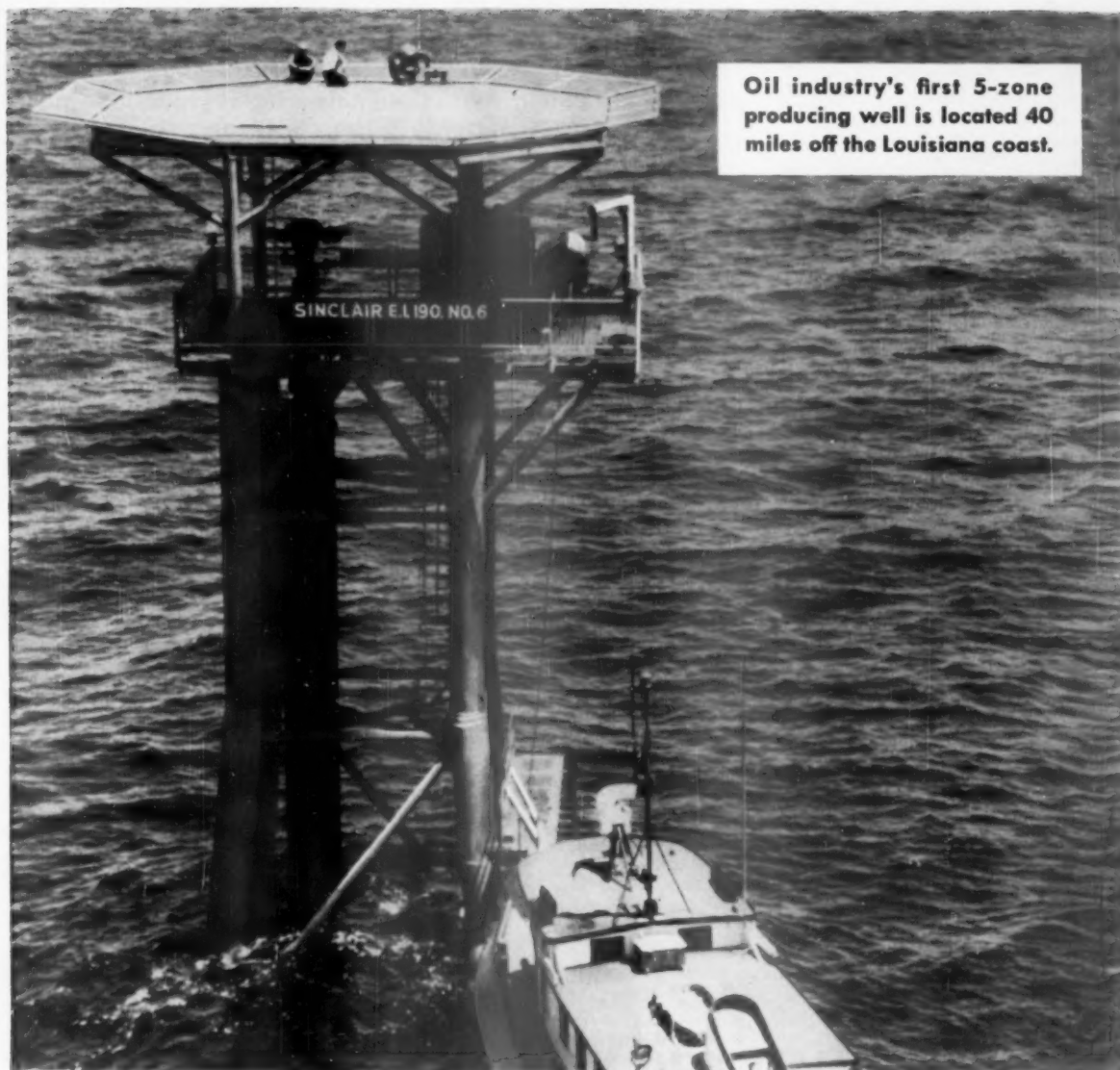
terms. More likely, it would require that the nolo pleas contain some outright admission of guilt.

• **Packaging of the 20 criminal cases** brought against them—if the compromise plan fails. This would avoid months of courtroom activity that could hardly result in good publicity for the companies.

• **Switchgear Case**—The first antitrust case involving sales of switchgear was filed last February. It came as no surprise. The Justice Dept. had been calling witnesses before several grand juries for months.

What was a surprise was the scope of the charges. Virtually the entire electrical equipment industry was indicted on charges involving almost every type of power generation and distribution equipment. General Electric Co. and Westinghouse Electric Corp. were named as defendants in all but two of the counts. In addition, 47 employees of the defendant companies were indicted (a rare procedure in antitrust cases).

All the companies attempted to plead nolo contendere, but Justice contended that the charges were too serious to be disposed of this way. Judge Ganey refused the pleas. Thereupon,



Platform Plank For Profits: More Gas

The historic well on this towering platform symbolizes Sinclair's growing natural gas business. Completed recently on offshore properties operated by Sinclair Oil & Gas Company for itself and others, it pioneered new techniques to produce simultaneously for the first time from *five geologic zones*.

Such efforts are part of the forward-looking program which has seen Sinclair Oil & Gas Company double its production and sale of natural gas in the last five years. Total net gas reserves have been almost doubled over the same period.

Further, additional facilities have been built to extract valuable liquids (such as propane) from the gas before sale to transmission lines.

The national demand for natural gas is rising more rapidly than that for any other form of energy. As a major energy supplier, Sinclair expects to expand with the most promising and profitable markets.



A Great Name in Oil

Allis-Chalmers Mfg. Co., Federal Pacific Electric Co., and I-T-E Circuit Breaker Co. pleaded guilty to the switchgear charges. GE and Westinghouse answered not guilty.

• **Charges Develop**—Apparently the grand jury investigations stemmed from complaints by the Tennessee Valley Authority that it had received identical bids on power equipment from suppliers. An investigation last winter by a Congressional committee headed by Sen. Estes Kefauver obviously nudged the Justice Dept. into action.

As indictment followed indictment through last summer, the equipment industry showed anything but a solid front. The three largest companies went their own separate ways: GE and Westinghouse consistently pleaded not guilty; Allis-Chalmers, after trying in vain for nolo pleas, pleaded guilty to eight criminal indictments. GE dismissed or demoted some of its officials who were involved in the charges; Westinghouse declared it would not "pre-judge" its indicted employees.

• **Fight With Mayor**—Just before the switchgear case was to open, GE became involved in a dispute with Philadelphia's Mayor Richardson Dilworth (page 36). The company charged that city police had failed to give its employees adequate protection from striking employees. The mayor charged the company with "blackmail." On the heels of this fracas, GE asked Judge Ganev to approve a motion for a chance of courts, claiming it could not get a fair jury trial in Philadelphia. It was joined in this motion by Westinghouse.

The motion is still to be ruled upon, but most court observers expect that it will be denied.

• **Still Conferring**—Instead of starting the trial last Monday, the companies and the government continued their pre-trial conference. They came to no agreement, so Judge Ganev suggested they take up their disagreement with Justice officials in Washington. As of midweek, the companies and Justice reportedly had made little headway in ironing out their differences.

Both sides must report to Judge Ganev again next Monday. It is likely that they will simply agree on trial procedures and that the trial will begin on Wednesday. GE's motion for change of courts probably will be ruled on the same day.

In addition to the Justice Dept.'s reluctance to accept nolo contendere pleas, there was other opposition to any compromise: Individual employees named in charges were protesting that a "package deal" would jeopardize their chances of being heard in court. They pointed out that the companies might be fined or sued for damages, but that they, as individuals, might serve jail terms if found guilty.

Philadelphia Mayor Fights GE

General Electric denies that it threatened to move its plants out of Philadelphia area unless the city provided police protection for its picket-crossing workers.

All the paraphernalia of the modern publicist was brought out in Philadelphia last week in a brief but bitter fight between Mayor Richardson Dilworth and General Electric Co. Charges and countercharges flew back and forth. But, when the air cleared, it looked as though little really had happened.

The dispute arose from company preparations for the strike called against GE by the International Union of Electrical Workers. The company notified the city that a strike was imminent, that it intended to try to maintain operations, and that police precautions should be taken to protect workers who might cross picket lines. This is regular procedure particularly if picket line troubles are a possibility.

• **Mayor's Bombshell**—GE plant officials served similar notices in 135 communities. In only the one, apparently, was there strong adverse reaction. Two days after the three-week strike ended, Dilworth let loose an unexpected bombshell in a luncheon address to more than 100 Philadelphia businessmen and civic leaders. He charged that GE had attempted to "blackmail" the city into using its police to open lanes for non-strikers through IUE's picket lines.

Red-faced with anger, Dilworth lambasted GE and its chairman, Ralph J. Cordiner, for what Dilworth said was a threat to move GE plants out of Philadelphia unless the city cooperated. The mayor accused GE of a "policy of political coercion and intimidation of municipal government as a weapon for the settlement of strikes."

Dilworth said IUE agreed not to resort to mass picketing if GE would agree not to try to keep its Philadelphia switchgear plant working; GE refused "that compromise," the mayor said. Dilworth also said that first attempts to get nonstrikers through the picket lines showed that it couldn't be done without a risk of trouble—so public safety was involved in an area with schools nearby.

GE retorted quickly against what it described as "Mayor Dilworth's intemperate, politically motivated, and factually inaccurate outbursts." All GE had asked for, it said, was "impartial enforcement of the law during a strike."

• **Newspaper Ads**—By the time the story hit the Philadelphia newspapers, GE had taken full-page ads to claim that the police had refused to arrest strikers guilty of violence and had failed to protect the rights of nonstrikers.

The mayor called a press conference

to amplify his charges. GE ran another full-page ad in which it asked: "What must businessmen who are currently contemplating large new investments in Philadelphia think when they see the unreasonable actions being performed by our mayor?"

• **Storm Blows Over**—But the fury was dying. At his next press conference, Dilworth admitted that perhaps "blackmail" was too strong a word. "GE did not make a direct threat to leave the city," he conceded to reporters, "but the company during many talks implied that it could and would leave if it didn't get what it wanted."

Then, the mayor made an appearance at a meeting with the Philadelphia Industrial Development Corp. to promise—among other things—that the city would enforce the law equally in labor disputes. GE ended the public dispute with an ad saying that "promises by the mayor of impartial law enforcement in the future may do much to improve chances of attaining . . . more jobs and a higher level of prosperity for Philadelphia."

• **Sensitive Toes**—Generally, in Philadelphia, the Dilworth attack on GE was considered an ill-advised adventure, but not too surprising considering the mayor's pro-labor orientation.

In the recent strike, GE took a firm stand that (1) unless a real hazard to life and property might be involved, it would maintain plant operations; (2) it would notify employees of their rights, under federal laws, to cross strike picket lines to work; and (3) it expected plant communities to provide the necessary police protection.

A week before the IUE walkout, Philip Moore, GE's chief negotiator, told reporters in New York that the company had advised officials of all plant communities of this position. He was asked whether a city's refusal to provide the protection for nonstrikers might result in GE moving out.

Well, Moore said, refusal to enforce the law certainly would be a criterion in judging the worth of a community. But, he explained, such a factor would be only one of many that would have to be considered.

GE kept its plants open in almost all other cities in which IUE struck. There were picket line disorders—some serious—in other places. Police intervened. If any of the other mayors shared Dilworth's views, none expressed support for his protest.

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In Business

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AEC, NASA Skip Entire Design Phase To Speed Nuclear-Powered Rocket

Development of a nuclear-powered rocket was speeded up this week when the Atomic Energy Commission and National Aeronautics & Space Administration called for bids on the first flight-test models of the engine, which will use a liquid hydrogen coolant. In effect, AEC and NASA are skipping the usual six-month engineering design phase and moving directly into the hardware stage. An earlier call for bids on design study has been canceled.

Behind the hurry-up move lies the success of feasibility ground tests of the Kiwi-A3 experimental model reactor at Los Alamos.

\$55-Million Transfusion for Sick B-70

The once-moribund B-70 bomber project had more blood pumped into its veins this week when the Eisenhower Administration released to it \$55-million of the extra money that Congress had tacked onto the Pentagon's budget. North American Aviation is the prime contractor on the 2,000-mph. airplane.

The new money means reinstatement of development contracts for the plane's combat subsystems that were canceled last year. Motorola will now go back to work on the plane's missions and traffic-controls, Westinghouse on the defensive subsystem, and North American's Autonetics Div. on the automatic flight controls.

The project—whose funds for the year total \$260-million—will now be able to produce two aircraft fully equipped "on an austere basis." The earlier cancellation had reduced the work to producing one stripped-down flying prototype.

Reinstatement of the bulk of the B-70 program is laid to:

- Political pressures of the Presidential campaign.
- New appreciation of the Air Force claim that a manned bomber is needed in the missile era.
- Acceptance that the B-70 will serve as a prototype for a Mach 3 commercial transport.

• • •

New Canadian Council Will Stimulate Better Use of Manpower and Resources

Canada is organizing a crack team to combat unemployment, which has been abnormally high all summer and is worsening as winter—with its seasonal layoffs—sets in (page 136).

The new National Productivity Council, modeled after the British Productivity Council set up in 1952, is being established at the request of the federal government. Its function is to achieve greater industrial efficiency through better use of manpower, plant facilities, materials, and resources.

The 25-man council will be selected from leaders of

business, industry, labor, agriculture, education, and the federal government.

Legislation to establish the council will be introduced at the coming session of Parliament, which opens Nov. 17.

• • •

ICC Guarantees \$4.5-Million Loan As New Haven RR Gets Tax Pledges

Armed with promises of state and local tax help from four states, the beleaguered New Haven RR this week secured an Interstate Commerce Commission guarantee on a \$4.5-million loan. ICC deferred action on a further \$1.5-million sought by the railroad.

The New Haven will use the one-year, 5% loan to pay bills coming due the rest of this year.

Earlier, ICC had refused to guarantee the whole \$6-million, expressing doubt that the New Haven could pay off the loan unless it secured tax relief (BW—Oct. 29 '60, p38). Since then, the railroad got an assortment of promises of help from New York State, Connecticut, Rhode Island, and Massachusetts, along with New York City and various local units.

• • •

Weyerhaeuser to Cut Production As Lumber Oversupply Increases

It's official now that the lumber market has indigestion (BW—Jun. 18 '60, p22). The giant Weyerhaeuser Co. last week authorized its branch-mill managers to cut back production, without specifying amount or method.

A Weyerhaeuser official said this was the company's first cutback in years; and it's an industry creed that if Weyerhaeuser cuts production, just about all the other mills have already done so.

Evidence has been piling up that lumber is suffering from the same overproduction that has had plywood screaming for some time. For example, in the Douglas fir area of Washington and Oregon, mill inventory at the end of September was 29.9% above the year-before date, while the order backlog was down 23.9%.

• • •

Underwater Oil Well Drilled From Ship Anchored a Mile at Sea Off Peru

The first underwater oil well drilled without the use of a fixed platform was completed by Peruvian Pacific Petroleum Co., a subsidiary of Cities Service, and Richfield Oil Corp. The well is in 130 ft. of water, a mile out in the Pacific off Talara, Peru.

Instead of the conventional and highly expensive drilling platform, the engineers used a converted LSM landing ship, the Rincon, anchored at the site. An ordinary drilling rig was mounted on gimbals over a hole 8 ft. in diameter in the center of the ship's bottom.

Alcoa also drew cards in the project, because it will provide aluminum flow pipe to link the well to a tank farm on shore.

**AS PUBLISHED
IN ST. LOUIS NEWSPAPERS—**

... and reprinted here as a reminder that this bank's traditional civic interest (which helps explain why we "serve more St. Louisans than any other bank") may also be helpful to your interests in this city.

A message from Mercantile in the public interest

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... until you know what you're voting for

All good citizens vote. But not all voters handle this privilege with the care it deserves.

Just going to the polls, for example, isn't enough. It is more important that you know, after you get there, *what* you are voting for.

Now—before November 8—is the time to find out. Never has this been so easy, so interesting, so vital to your future.

Between now and November 8, please study the issues and the candidates. Read your newspapers and your magazines. Watch television. Listen to your radio. Then *make up your own mind* which candidates will most likely benefit your country most.

Seldom has an election been so important. Please be sure you vote November 8.

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WASHINGTON OUTLOOK

WASHINGTON
BUREAU
NOV. 5, 1960



Some guideposts to help you follow the election returns, particularly in the early and most confusing hours of next Tuesday night:

Connecticut will be the first state to report in with complete returns. All voting in this state is done by machine, speeding the compilation.

What to remember about Connecticut: It has a majority of Democrats, and both sides expect it will go for Sen. John F. Kennedy. If it does not, or if it is extremely close, it will be an encouraging portent for Vice-Pres. Richard M. Nixon and the Republicans.

A clue on the impact of the so-called religious issue may be obtained from the Connecticut returns. A tremendous Kennedy victory in the state would suggest he got heavy Catholic Republican support.

Watch early trends in New York State and Pennsylvania. All the major networks will have computers busy, projecting on the basis of first returns. Computers are only as good as the information that is fed into them, and this won't be infallible. But there's some background to keep in mind as these projections begin to develop:

Democrats hope for a 600,000 Kennedy majority in New York City, and some think his margin may go past FDR's record 700,000. If this kind of a trend sets in, Kennedy probably will carry the state—even if upstate New York follows its traditional Republican pattern.

Key points in upstate New York are Buffalo, heavily Catholic and "the Polish capital of the U.S.," plus the cities of Syracuse, Utica, Rome, and Rochester. If these are close, Nixon chances for winning New York State will fade quickly.

Philadelphia and Pittsburgh are pivotal in Pennsylvania. The state's early returns will come mainly from these two cities, which are, of course, Democratic strongholds. If Nixon runs strongly enough to hold the Kennedy margin in these two, combined, to 210,000 or less, the GOP figures it can carry the state.

Still in the Eastern time zone, watch these Southern states:

South Carolina: Nixon has hopes. If he can take this one, he ought to deprive Kennedy of other states in the once-solid South.

Florida and Virginia. Both went for Eisenhower in 1956. If they swing back Democratic, it might be a clue on how Texas—also an Eisenhower state four years ago—will go. The Texas vote won't begin to show up until later in the evening.

For a reading on the depth of the anti-Catholic vote watch, in the early evening, returns from Tennessee. This is one of the states where it is supposed to be deepest. Tennessee is nominally Democratic. If it goes to Nixon, most pros expect the Republicans also will carry Kentucky and Oklahoma, and probably Missouri as well.

In the central industrial zone, Ohio and Illinois are the barometer states:

The figuring on Ohio: Kennedy needs a whopping big margin in Cuyahoga County (including Cleveland)—maybe up toward 60% of the vote—if he is to withstand expected Nixon strength elsewhere. But keep an eye on Cincinnati. In a normal year, the GOP counts on it for big help in

WASHINGTON OUTLOOK (Continued)

WASHINGTON
BUREAU
NOV. 5, 1960

offsetting Democratic power in Cleveland. Cincinnati has a heavy Republican Catholic element. One question here: Will Kennedy crack into that?

Illinois resembles New York in one routine respect—the division between the city (Democratic) and the country (Republican).

Kennedy's strength in Cook County (including Chicago) is the key. Republicans figure they can concede Kennedy a 500,000 margin in Chicago, cut it down by 100,000 in the county suburbs, and then overcome this 400,000 vote deficit with a strong showing downstate.

In a real close election, the Farm Belt could be important. There were defections from the Republicans in 1948 that cost Thomas E. Dewey the Presidency; and in Congressional elections since 1952, Democrats have made gains. Watch Iowa and Nebraska returns, which should begin showing up by mid-evening.

You could know the new president's name before Far Western returns are in. Most of the Electoral College strength—the thing that counts for most in the end—resides in the states East of the Mississippi River.

Winning the Presidency requires 269 electoral votes—or a simple majority of the 537. These are apportioned on the basis of state population—one electoral vote for each U. S. senator and each member of the House of Representatives that a state is entitled to.

The winner of a state's popular vote gets all of its electoral vote. It would be more satisfying to a candidate to carry New York State, for example, by 1-million than by 100,000 votes. But the result would be the same. The winner would get all 45 electoral votes of this pivotal state.

Either man can win by carrying as few as 11 states—if those 11 are New York, with its 45 electoral votes; Pennsylvania and California (32 each); Illinois (27); Ohio (25); Texas (24); Michigan (20); Massachusetts and New Jersey (16 each); North Carolina (14); Indiana and Missouri (13 each).

Note that in this group, only California is in the late-reporting Pacific time zone. And if either Kennedy or Nixon wins the others in this major electoral strength class, he will also pick up enough states of lesser strength to win without California.

There are eight weathervane counties that you undoubtedly will hear about from time to time during the evening if you are paying rapt attention to your radio or television set. These are counties that, in this century, always have given a majority to winners of the Presidency.

These counties are interesting, but a note of caution is indicated. They are not so reliable as they used to be. Until 1948, there were 12 with spotless records. Then one, San Joaquin County, Calif., cast its majority for Dewey. Three more fell off in 1952 by going for Adlai E. Stevenson—Belmont County, Ohio; Fayette County, Pa., and Marion County, West Va.

Evansville, Ind., is the hub of the largest weathervane county that falls into the "always right" category. This county, Vandenberg, gave Eisenhower 58% of its vote in the last Presidential election. The other seven, in the approximate order that their 1960 returns can be expected, are: Strafford and Coos, N. H.; Jasper and Palo Alto, Iowa; Albany and Laramie, Wyo.; and Crook, Ore.

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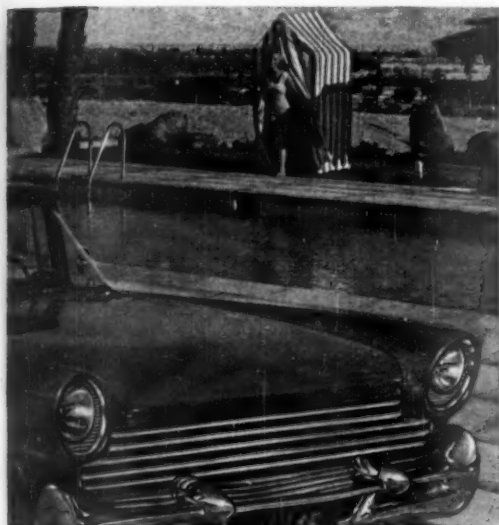
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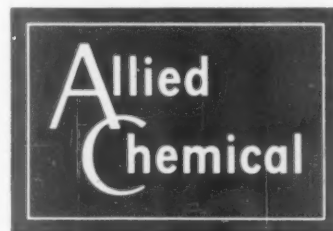


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PORTLAND, ORE.; CORNWELLS HEIGHTS, AND NATRONA, PA.; BRYAN, DALLAS, AND
HOUSTON, TEXAS; TACOMA, WASH.; OAKVILLE, ONTARIO, MEXICO CITY

Rails Stiffen Battle for Freight

Proposed program of selective rate cuts and rate innovations is move to recapture business lost to other carriers.

This week, for the 16th time since 1945, railroad freight rates went up (charts). Far from being a blessing, the 15-year spiral has turned out to be a dilemma for the railroads—the more they increased rates, the more business they lost to other carriers. Now they are trying to break out of the vicious circle, and their moves are shaking up the entire transportation industry.

The important point about last week's increases is not that they happened, but their modest size. All that railroads asked—and received—was approximately 1.7%. To remain competitive, water carriers and truckers dare not change their relative rate positions, and so the new rail rates represent a ceiling.

This is but the latest indication of the fierce battle raging within the transportation industry—a battle that could change the competitive standing of the carriers, the whole philosophy of rate-making, and could greatly reduce costs to shippers.

- **50% Decline**—Railroads over the past 50 years have watched their share of intercity freight business decline from almost 100% to less than 50% of the total. Now they are determined to retrieve what they can. Their latest rate increase was the minimum needed to help offset rising wage and material costs pending what they hope is an imminent change in the tide of battle. And even this increase has not been applied to all commodities.

For the railroads, the small boost primarily was to buy time.

- **Trucks Horn In**—Today's incredibly complicated rate structure began fairly simply when railroads had a monopoly. Generally they charged what the traffic would bear. Low-value raw materials were carried at a low rate—sometimes even at a loss. But the industry got its money back by charging high rates for high-value finished goods.

Came the truck, however, and the system broke down. Motor carriers charged less and provided faster, more flexible service on manufactured goods, which they are ideally suited to carry. They easily picked off the most profitable end of the railroad business.

- **Fighting Back**—After World War II, as costs shot up, the railroads sought general freight increases. The burden of these increases usually fell on noncompetitive goods—those not in danger of

disappearing into a truck trailer. The old, low-rated and loss leader commodities were boosted drastically. But frequently this allowed water carriers with their low costs to move in at the opposite end and capture some of the bulk, raw material business.

Where the railroads tried to cut rates on particular commodities to recapture lost freight, they often were blocked by the Interstate Commerce Commission. ICC felt it had to take account of the effect these reductions would have on the competing carriers, and frequently refused to let the rails set rates that would take business away from their rivals.

Now, however, ICC has changed its approach. It is looking more at the costs of providing service, paying less attention to the possibility that competitors will suffer.

So railroads are now trying to establish rate cuts and rate innovations that have the competition aghast.

"Honesty and candor require us to admit that our danger is greater than at any time in our history," says John V. Lawrence, managing director of the American Trucking Assns. The rails' selective rate-cutting, if allowed to go unchecked, means "we most certainly are headed toward a period of chaos that could shake the entire transportation structure to its foundations."

In many ways, the railroads sincerely hope this is so.

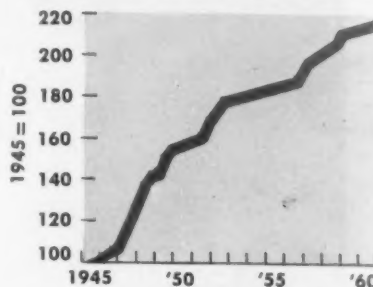
"We are not 'sick' like the railroads continually claim to be 'sick,'" says Delos W. Rentzel of United Transports, Inc., and chairman of the National Automobile Transporters Assn. "We are about to die." In the last quarter of 1959, for example, UT's movement of Chrysler Corp. cars plummeted 70% under 1958.

- **Shippers Applaud**—Most shippers, on the other hand, appear to be delighted with the trend to selective lower rail rates. The National Industrial Traffic League, whose membership includes 1,700 traffic associations and chambers of commerce, holds that railroad management has the right to adjust rates to whatever degree necessary to remain competitive so long as these rates do not constitute destructive competition.

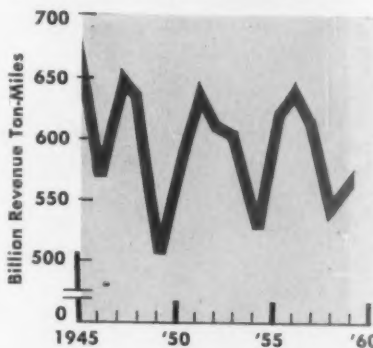
- **New Note**—Most of this would be just another intra-industry squabble, except for one important development. Since the War, there has been a tremendous growth of private transportation. A steady succession of companies has deserted common carriers to ship their own goods.

This month, Union Carbide Plastics

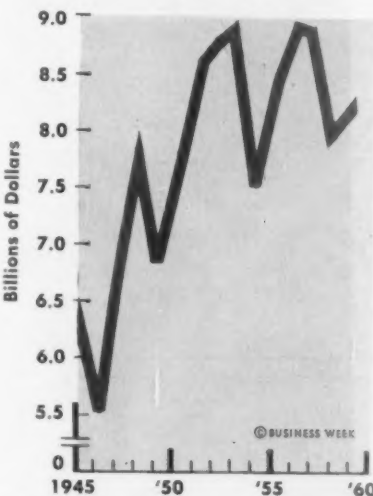
Railroads have been allowed to double rates since World War II...



... But their business hasn't grown with the economy ...



... And they haven't raised rates as much as they could. Revenues are up only 27%.



Data: Yearbook of Railroad Information

COLLINS

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The first two-way voice communication using the Echo I satellite was made by Collins Radio Company in Iowa and its systems subsidiary, Alpha Corporation of Texas. Collins also conducted signal measurements, relayed teletype messages and even a news photo. Participation in NASA's Echo project is representative of Collins' space research. Other studies involve upper atmosphere radiation, and systems evaluation associated with space vehicle programs, including a lunar "soft" landing. Collins also designed the first radio sextant and provided communication systems for Project Mercury and the X-15 rocket ship.

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Lunar Landing Studies



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Co. (a division of Union Carbide Corp.) will receive the first of 850 containers it bought to ship bulk plastic from Texas City to Perth Amboy, N. J. These containers will be carried aboard a Union Carbide-owned, converted tanker, which will also bring chemicals.

Formerly most of the bulk plastic was carried in box cars that were, in turn, carried by Seatrain Lines, Inc., an intercoastal water common carrier. Says Charles H. Beard, Union Carbide's traffic manager, "We had numerous talks with Seatrain about this, but they simply couldn't meet our costs and still have a profit."

If there is anything unique about Union Carbide's move, it is only the water haul. Most private transportation is being done over highways. Since 1945 private intercity truck traffic climbed from 34-billion ton-miles to 143-billion last year. And it's still shooting up. The establishment of equipment leasing pools is sure to add impetus. Now companies need not tie up capital in vehicles or containers.

• **Real Threat**—Morris Forgash, president of U. S. Freight Co., a leader in the freight forwarder industry, presents the problem bluntly. "When do-it-yourself transportation poses a serious threat to the mass producing professional carriers something is wrong," he says. "The proposition that shippers can produce their transportation more efficiently and economically than common carriers is . . . repugnant to basic economics."

Repugnant or not, the trend is there. And railroads are determined not only to recapture business from common carrier truckers and water carriers, but to recapture private traffic as well. To do so they believe they must offer a complete, flexible, attractively priced transportation package geared to the customer's needs. That's why the railroads are going in for contract and volume rates. And that's why two roads are trying to buy a barge line—a step that is anathema to water carriers.

• **A Precedent**—The battle over rates began in August, 1959, when ICC—acting upon the new emphasis and direction provided in the Transportation Act of 1958—O.K.'d a rate reduction on the shipment of paint by a number of Eastern railroads. Paint is one of the goods that railroads had lost almost entirely to trucks. ICC agreed that the railroads should be allowed to fix rates without regard to the effect these rates might have on the truckers, so long as these rates covered the out-of-pocket costs.

This set an important precedent. If rates are set on the basis of what it costs the carrier rather than the value of the service performed, rails have an advantage in competing for any particular piece of business. Their out-of-

pocket costs are generally lower—about 70% of total costs, compared with 90% for trucks and water carriers.

• **Test Cases**—It is not only a changing theory of rate-making that draws protests from truckers and water carriers, however, but also rate innovations introduced by the railroads. Two of these of principal concern are so-called guaranteed rates and special piggyback rates.

Under the guaranteed rate, railroads charge less to shippers who patronize them exclusively than to those who do not. The legality of this type of rate has not yet been passed upon, but decisions by the full commission in two cases are expected soon.

One involves the shipment of rugs from Mohasco Industries, Inc., Amsterdam (N. Y.) to Chicago. The New York Central signed a contract with Mohasco under which it agrees to haul carpeting at a reduced rate provided it is guaranteed 80% of the business—most of which is now handled by truck (BW—Mar. 5'60, p123).

The other is similar. In this instance, the Soo Line offered a lower rate to Mannesman Tube Co. on pipe shipments from Sault Ste. Marie (Ont.) to Chicago if it were given 90% of these shipments. The purpose: to beat out Great Lakes water carriers.

The ICC examiner, while finding the rate illegal, complimented the railroad for proposing it. Whether or not such guaranteed rates should be permitted was a question for Congress to settle, he said. The commission may or may not uphold him.

• **Piggyback Under Fire**—The contested piggybacking rates also are before ICC; oral arguments before the full commission began this week.

The two types of trailer-on-flatcar service causing the truckers the greatest grief are those where (1) the shipper owns the container and (2) where he owns both the container and flatcar. In either case, the shipper may load his van with almost anything he wants, provided there are a minimum number of differing commodities in each shipment.

Under the rates proposed by Eastern railroads, the charge would be 50¢ per car-mile under the first plan, and 40¢ under the second regardless of what is in the trailer. The effect of this almost certainly would be to take high-rated commodities away from trucks and put them back on the rails.

"The railroads are opening up a Pandora's box of troubles with this," says one trucker. "The plan takes dead aim at the heart of operating rights upon which our whole system of common carriage and the whole theory of carrier responsibility is based."

One rail official retorts, "We can't afford not to have these types of piggybacking." **END**

Computers Start to Run the

● At an accelerating pace, the machines are taking over the ultimate job of production supervision.

● They have made greatest headway in steam-electric plants and in the processing industries, such as oil and chemicals. There, computers have taken over control of entire plants.

● In so complex an industry as steel, computers have been put in charge of steps in processing (right) and are rapidly expanding their role.

● How far to employ computers is a difficult decision that faces management in more and more industries.

THE BRAINS of the annealing line at Jones & Laughlin's Aliquippa (Pa.) tinplate mill—some are under the hard hat and some are in the boxes.

A technological storm (cover) is boiling up in the oil and chemical industries, racing through the rolling mills and furnaces of the steel industry, striking again and again in electric generating plants, and occasionally upending a manufacturing operation.

This form of technology is still so new that it lacks a good name. Some say it's automation, in the very strictest sense of that abused word; others prefer to call it "closed loop" computer control (see box p. 52). This is a setup where the lightning-fast calculations of a computer and its network of instruments and controls supplant the brains, nerves, and hands of men in primary responsibility for running an industrial production operation.

Only a few widely scattered plants use the pure form of computer control, and the first rather nebulous results are

just beginning to appear. But the snowball is starting to roll.

• **Pickup in Interest**—In the past couple of weeks alone:

• Standard Oil of California and Standard Oil Co. (Indiana) revealed extensive computer control projects they are pursuing with International Business Machines Corp. Two other major IBM projects, supposedly secret but widely discussed in the trade, deal with chemical processing for E. I. du Pont de Nemours & Co. and blast furnace operations at Inland Steel Co.

• Monsanto Chemical Co. lifted the veil around its experience with operating a computer-controlled ammonia plant since January. Results have been closely guarded up to now.

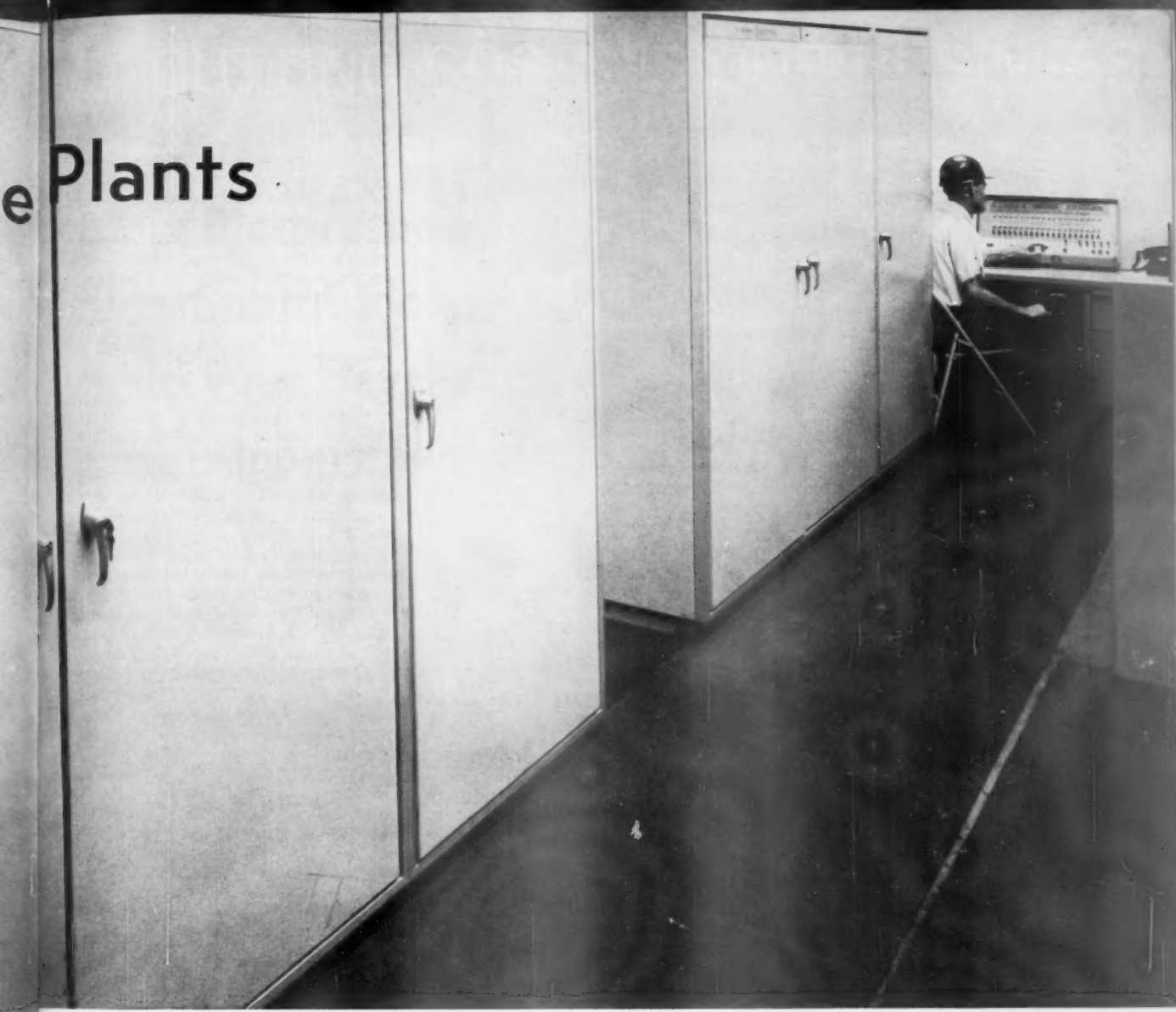
• Electric utilities, which are pushing six computer-controlled steam power stations that are already under contract,

revealed that they're getting ready to call for bids on half a dozen others in the next few months. Builders of the first group of plants are Southern California Edison Co., Louisiana Power & Light Co., and Public Service Electric & Gas Co. of New Jersey.

A couple of other companies have given computers full sway over plants. Texaco, Inc., was first to put a refining process wholly under computer control (BW—Apr. 4 '59, p44), and B. F. Goodrich Co. has two plants in Calvert City, Ky., directed by the same computer in making vinyl chloride and acrylic plastic. Half a dozen steel companies are giving computers control over such equipment as rolling mills, sintering plants, and annealing lines.

Many more companies in chemicals, refining, pipelines, utilities, steel, plastics, and cement are on the verge of

e Plants



deciding which of the several ways of using computers to supervise production they will adopt.

• **Degrees of Use**—Computers, of course, have many industrial uses short of running the whole works. For every plant where the computer takes over completely, there are many plants where they stop just short of this. In these uses, computers are connected directly to the instruments, keep a continuous log of performance, and advise human operators how to get the best out of the equipment.

In the rarer and much more complex closed loop system, the computer is king. How much sovereignty the computer is given may well be the thorniest management decisions of this decade. Computers are expensive themselves, and they demand more and better instruments and controls in well

integrated systems. Consequently, this increases the cost of computer control even further.

I. New Industry, New Role

A new kind of capital goods industry is growing up to serve the demand for computer control systems. This year, its sale of computers, with their input and output equipment, will amount to about \$20-million in the industrial field. But a far more significant investment is already being made in research and development by computer makers and in process studies by potential users of computer control systems. This will show up in future sales of hardware. Computer makers predict that, by 1970, sales of computers and their related equipment for process control will reach somewhere between

\$200-million and \$500-million a year.

• **Blend of Sciences**—In its new role as a superfast and supersmart calculator, controller, and supervisor, the computer is rising on the shoulders of many fast-moving technologies: electronics, data-processing, control engineering, operations research, and systems engineering. Its diet of information is drawn from new knowledge of processes, gained in basic research laboratories and advanced engineering studies.

It's taken for granted today that a computer system tailored to the special needs of an industry can make possible operating efficiencies and production flexibility that would have been unimaginable only a few years ago. For the first time, management can hope to solve the problem of operating incredibly complicated and interrelated business units at close to the best possible

The ABCs of What Computers Do in Plants

Automatic controls range all the way from the infinite complexity of the computer to the familiar simplicity of the thermostat on a home heating system. In the thermostat, a small heat-sensing instrument, usually in the living room, switches the furnace on and off to maintain a pre-indicated temperature.

In a chemical plant, many "thermostats" control parts of the process—some regulate temperature, others pressures and flows. Finding the best setting for each of these controls is complicated. One solution is to have an operator feed data into a computer that calculates the best combination of settings; then operators regulate the instruments accordingly. This is **off-line computation and control**.

It takes time for people to collect instrument readings, and errors can creep in. But you can feed the instrument readings directly into the computer, and let it do its stuff. This is called **on-line, open-loop computer control**, because although the computer is linked directly to the process, people still play a part in resetting the thermostats in accordance with the computer's suggestions.

In **closed-loop computer control**, both the instruments and the con-

trol settings of the controls are hitched directly to the computer; no human hand gets into the act.

In systems now in use, the computer sets thermostat-type controls. These systems are called **supervisory closed-loop control**. The computer does the same job as a human supervisor.

In the future, engineers expect that a more sophisticated system will take over. This is called **dynamic closed-loop control**. Here the computer reads the instruments, analyzes them, and sends its orders directly to valves and motor controls. It has no need for many of the old thermostat-type instruments. Dynamic control will do more than eliminate instruments; it will handle more precise jobs.

Such a system could operate only with a computer. It would not be possible to switch back to manual or conventional automatic controls. Right now, according to systems men, the computers are reliable enough to do the job, but instruments and actuators are not yet dependable enough. The instruments will have to be made much more reliable and accurate before a computer can be given entire charge of a multi-million-dollar plant. Most engineers think this goal cannot be reached for 5 or 10 years.

productivity for a given moment and a given physical capacity.

With such a goal in sight, big corporations are spending money on studies of how they can use computer systems, and makers of the systems have committed large sums—millions of dollars in some cases—toward staking out a major place in the equipment market.

• **Deep in Business**—Among the computer manufacturers most deeply committed are International Business Machines Corp., General Electric Co., Westinghouse Electric Corp., Daystrom Systems Div. of Daystrom, Inc., Thompson Ramo Wooldridge, Inc., Radio Corp. of America, Minneapolis-Honeywell Regulator Co., Philco Corp., Autonetics Div. of North American Aviation, Inc., Packard-Bell Electronics Corp., Bendix Corp., and Librascope, Inc., subsidiary of General Precision Equipment Corp.

Univac Div. of Sperry Rand Corp. is about to introduce a computer for production control, and Sylvania Electrical Products, Inc., may enter the field before long.

Closed-loop systems require integration of computer, controls, and instru-

ments, so instrument companies and computer manufacturers are already forming alliances. Foxboro Co., a leading maker of process control instruments, has agreed to market RCA's control computer as part of a system. Bailey Meter Co. is allied with Packard-Bell in the same way. And Leeds & Northrup Co. offers systems with Philco control computers.

In some cases, the integration is through merger, as when Control Data Corp., of Minneapolis, last March acquired Control Corp., also of Minneapolis, a maker of supervisory equipment for the power industry. And last spring Chance-Vought brought off a triple merger—its Genesys Div. and Panelit, Inc., with Information Systems, Inc., now a Chance-Vought subsidiary.

• **Digital vs. Analog**—The big and medium-sized computers that are used in the more complex systems are all digital computers. Makers of small special-purpose analog computers are competing for a different approach to production control, using their computers to control only the critical portions of processes rather than the whole operation.

Digital and analog computers work differently and yield different results (BW—May 22 '54, p90). A digital computer is essentially an extremely fast adding machine; it turns out the results of arithmetical calculations. An analog computer is simply a mechanical or electrical device that you set up as a model analogous to the process you want to describe or the problem you want solved. It deals with comparative values, not hard figures; its results appear as lines on a graph or as voltages on a meter.

Both, however, must be programmed. That is, they must be set up in such a way that they can produce a result from the data they receive.

• **Hard to Make Sense**—Competition between the two types of computers and among the makers in the field is getting fiercer every day—and the whole field has developed at such speed that the businessman who must make purchasing decisions hardly has had time to grasp more than the fundamentals.

Computer system design is a blend of many sophisticated technologies, each of which has its own difficult concepts and peculiar vocabulary. When the lingo of the processing experts is combined with the mathematical language of process dynamics and the jargon of the computer programmer, the thicket of words gets prickly indeed.

The layman is not alone in his puzzlement. Management-level engineers in the process industries are far from united on the questions of how much computer control their companies need, how much time and money should be spent on it right now.

II. Management's Quandary

The very newness of these complex questions, combined with the apparent urgency of answering them, is upsetting to management. The old reliance on good, solid judgment bred of tenure and experience is under the eroding attack of irrepressibly enthusiastic engineers waving charts, graphs, and long rows of calculations spewed out of a computer's line printer at thousands of characters per minute.

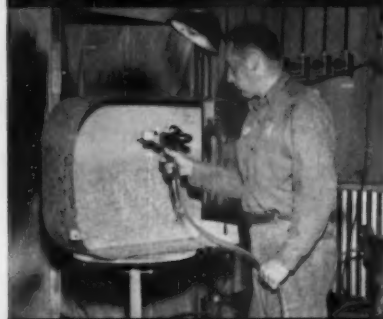
Top engineering management shares the unease with the non-engineering executives. It has to adjust old-style methods to a new faith in computers as a management tool. Despite evidence that unbelievably complex calculations by computers have proven remarkably valid when put into practice, managers shudder at the thought of an error that might take hundreds of man-hours to check. Computers rarely make mistakes—and often warn you when they do—but human errors in programing are possible.

Engineering-trained colleagues breed frustration and irritation, as often as

big savings for your finishing department



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respect and admiration, when they use technical terms to explain computers to non-technical management. It works the other way, too: An engineering vice-president can work up a cold sweat at the prospect of explaining a half-million-dollar expenditure on a computer control system to a board of directors that wants a two-year payoff and wants no nonsense about writing the cost off as production research that's worthwhile in itself as a study of processes.

• **Chance of Profits**—On the other hand, can any management neglect to consider a way to increase profits by cutting costs, especially when competitors seem to be considering it?

Putting a computer to work in a closed-loop control system—the ultimate step in turning production supervision over to the machine—is not simply a matter of plugging in a new instrument. It often takes years of analysis and planning, and it can add \$100,000 or more than \$1-million to the cost of a plant. Without much operating experience to go by, there's no guarantee yet that the investment will pay off.

But the chances look good enough to force almost every major company in several key industries—steel, utilities, oil refining, chemicals and petrochemicals—to put teams to work studying computer control.

Preliminary conclusions differ. Some experts think the whole technique is overrated and the financial rewards dubious. Others see computer control as the logical, even inevitable route to reducing costs by improving production efficiency. A truly spectacular success or spectacular flop among the early computer-controlled plants could tip the scales either way.

III. Automation by Degrees

Fortunately, the decision doesn't have to be made between complete control by computers or none at all.

Most large oil companies, for example, already use some form of the simulation technique to set plant pro-

duction schedules. They supply the computer with information on raw materials, production capacities and costs, inventories, shipping costs, and dozens of other variables. Then the computer figures out which plants should turn out what products.

Any changes in the variables can be fed quickly into the so-called model, and production schedules recalculated by the computer. Such simulation jobs aren't directly connected with the plants or processes, but they make their calculations simultaneously with actual events and the results are immediately applicable.

• **Systems Studies**—Simulation of a plant or process, of course, can only be as good as the information that the operating people provide. This puts more pressure on operating divisions to analyze their costs, schedules, and product mixes more carefully.

Such systems studies are difficult to make—one reason for the new demand for a hybrid type of engineer-mathematician who understands the vocabulary and techniques of such diverse disciplines as communications, chemistry, network interrelations, mechanics, electronics, and metallurgy.

These studies are often useful in themselves in helping get rid of bottlenecks, high-cost operations, or gaping holes in basic knowledge of how and why certain processes operate as they do.

• **Empire-Seizing**—While a company may start off on a limited scale, the tendency is for the tentacles of the data-processors to reach ever closer to the actual operation of the plant. The central system more and more greedily sops up information in more detail and at a faster pace, digests it, and sends back the recalculated operating orders.

System simulation has proved particularly useful, for example, in the electric utilities and gas transmission networks, where customer demand for power is continually changing. Utilities use central computers to calculate almost instantaneously the amount of power each generating station should be



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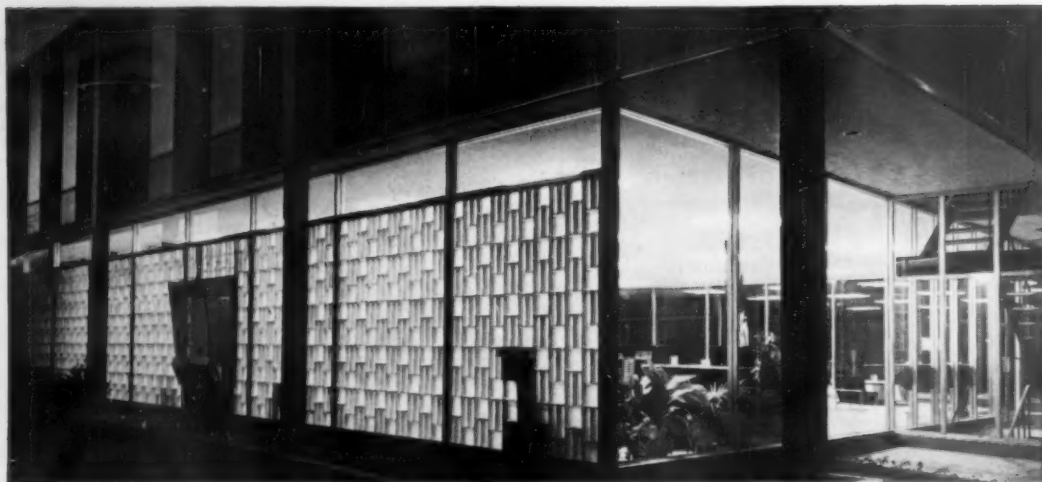
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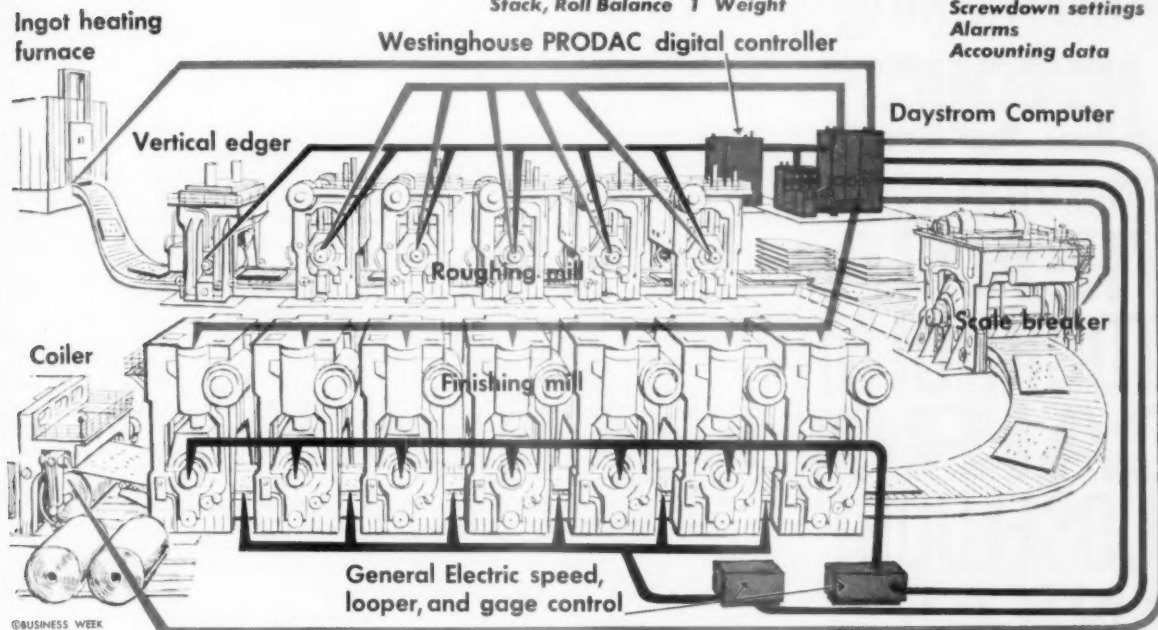
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supplying at a given moment. By telephone line or microwave relay, this information goes to each power station; in some modern plants equipped with automatic controls, the signal operates the governor on the turbine itself.

From this point it may seem a simple step to giving the computer full charge of the generating stations. But it's not quite that easy.

• **The Big Step**—The assignment of a computer to control a plant or process is as different from that of merely simulating conditions in the system as the job of production supervisor differs from that of a staff executive.

At any point short of computer control of a plant, a human operator has the decision as to what data the computer needs to know; he is on hand to take charge when any of the less ordinary events suddenly come up. When the computer is in full command, it must be prepared to receive and put in proper perspective almost everything that happens in the plant, including emergencies that might crop up only once in a while.

Providing this surplus, rarely-used capacity in the computer setup is one of the most costly and worrisome things about taking that last big step in closing the loop. If a computer, for example, is to run a steam power plant instead of just setting a production formula, it must correlate such factors as fuel characteristics, combustion efficiency, flows and temperatures of steam, air,

and water at all times, and hundreds of safety checks. Only then can it go ahead with its over-all job of finding the optimum operating condition and then bringing it about by adjusting controls.

• **Thinking for a Machine**—One of the most formidable jobs that engineers have ever tackled is to figure out all the steps a computer must go through in performing even a simple task. This job, called programming, becomes an art in itself when a computer is to be given control of a whole plant.

The computer, after all, is only a machine. It can't think; it can do only what it is told to do. So the control program must be laid out to cover not only the routine problems of production or processing, but also the most unlikely sort of accident or condition. In all cases, it must be designed to take every measure to protect the plant from damage—and to call for human help, automatically, when it can't handle the problem.

There's a fine point in deciding how much information the control computer needs. It's frightfully expensive to provide the instrumentation to feed the computer more information than necessary, yet there are grave risks in providing too little. A user wants to take full advantage of a computer's speed and accuracy. Above all, he wants to be able to rely on it.

• **A Couple of Gaps**—The need to think for a machine—or program it—has led to new efforts to solve well-known

but little-understood problems of processing.

For instance, in a refinery or a chemical plant, what is the precise relationship between a control setting and the instrument reading? Some of these mathematical relationships can be worked out from theory. Many others must be found empirically—by actually operating the plant, recording the results, and then reducing them to mathematical statements acceptable to a computer.

Some of these relationships are linear—that is, a given change in a valve setting will produce a known change in the process flow. But many such relationships are non-linear or discontinuous—a substance in process may change its nature entirely with a change in heat or pressure. Nonlinear relationships require knowledge of some of the newest, most complex mathematical techniques.

Another important factor in designing a control computer system is "plant inertia." When a change is made in a control, it may take anywhere from a couple of minutes to several hours before the plant settles down at the new operating level.

Human operators ordinarily change one or two controls, wait for the readjustment, then change other controls. It may take a full shift for a processing plant to settle down to a new level of output or to respond to a change in raw material. With the computer's ability to correlate all factors and change all

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the control settings at once, engineers must try to figure out the exact effects of plant inertia so that the computer can compensate for it. Such knowledge wasn't necessary in the days before the computer.

IV. New Team Lineup

Clearly, a control system cannot merely be imposed on a process and be expected to produce the best possible results. Thus, there has to be close cooperation among the process designer, the plant engineer, and the computer and instrumentation group.

Not all industries are prepared for such cooperation involving outsiders. The chemical business, for example, cherishes a high degree of secrecy on process knowhow. So chemical companies tend to build up their own systems experts, relying as little as possible on computer and instrument makers.

• **Industrial Ties**—In other process industries, there's less emphasis on the security of proprietary information. One of the most significant alliances between systems suppliers and process designers is that between Daystrom Systems Div. and Universal Oil Products Co. Both companies think it makes sense to consider computer control during the research stage of process development as well as during the engineering stage of plant design.

Daystrom and most other computer makers feel it's vital to build up teams of their own men with production savvy in the industries they will serve, but they insist they won't try to tell customers how to make products.

Systems manufacturers tend, of course, to build up staffs of top-ranking engineers from the fields they hope to serve. Thompson Ramo Wooldridge has 50 engineers in its engineering development and marketing divisions—more in petroleum and petrochemicals than in any other field because that's where it has installed the most systems.

Packard-Bell expects to have between 80 and 100 engineers on staff within a year; Information Systems, Inc., has 22 in systems design alone.



Electric Utilities—Sold on Computers

Four computer-controlled electric power stations are under construction, two more are under firm contract, and half a dozen other projects will be up for bid soon. Computer control is

• **IBM Projects**—According to C. C. Hurd, IBM's manager of industrial control system projects, IBM has been building a staff for two years to deal with production control problems. It will introduce a process control computer, its first for this specific purpose, by the end of the year.

Hurd says several hundred people are involved in the projects, including those who are designing computers and those in related work. He adds that IBM has deliberately chosen some of the toughest automation problems in industry, ones of the greatest complexity and the greatest volumes of product. These, IBM believes, are the processes that can use general purpose digital computers to best advantage.

Much of IBM's work is aimed at developing large-scale centralized computers that can perhaps control more than one plant and do simulation work and scientific calculating at the same time.

V. The Basic Decision

Is it worthwhile for management to devote so much time and talent to figuring out the complex mathematical model of a process in order to put a computer in charge of it? Is it worthwhile to spend so much on research to develop new instruments that are accurate enough to give a computer the detailed information it needs?

Will it all bring enough improvements in productivity to pay for the time of high-priced men and costly new equipment? Or do the shortcomings in instrumentation, knowledge, and personnel make computer control premature and extravagant at this time?

These are the questions that face top management in scores of major companies. The answers will differ from one industry to another, even from one company to another in the same industry. But in the process industries, there's no denying that computer control has already arrived.

Where the development of computer control stands in some of these industries, and what it will mean to them, is described in the following pages.

firmly established in the utilities industry.

That's a big and pleasant surprise to the computer makers. Electric utilities are famous for their reluctance to install

any important equipment until it has built up a long record of operating reliability. They tend also to deal only with a small circle of well-established companies whose products they have learned to trust. So the computer people, coming newly to the utilities industry, expected a lot more resistance to the idea of turning big power plants over to computer control.

But there's one other point about the utilities industry that gave computers their chance: Power plant engineers are always on the lookout for even a tiny gain in efficiency and reliability. Power stations are already at a high level of productivity; utilities work on a rather narrow profit margin on a huge volume of output. Improvements in efficiency are hard to contrive but when they can be made, they make a big difference over all.

• **Well Adapted**—Financially, it's easier for utilities than for many other industries to justify the cost of computer control. A power plant has a useful life of 30 years, and equipment costs are spread proportionately. By contrast, the chemical industry often requires equipment to pay for itself in two years, making it harder to justify the cost of a computer system.

Technically, too, computer control is more at home in power stations than in oil, chemical, and steel plants. Utilities are brimming with electrical and electronics engineers; their maintenance men are mostly electrical specialists.

Power station design is more standardized, and that makes it easier to apply computer control features to one plant after another. In refineries and chemical plants, every job is likely to be radically different.

Furthermore, there's little secrecy about the technical features of power plants—any utility executive is proud to show everything to his opposite numbers in other utilities. This means that the industry's advance in technology is cumulative, with little duplication of effort.

• **Experts Say Yes**—The clinching argument in favor of computer control is the attitude of leading power plant engineers and designers. Ebasco Services, Inc., and Bechtel Corp. are enthusiastic about the new technique, although both have a reputation for extreme caution in recommending new equipment for their customers' plants. Their O.K. is equivalent to a gold seal of approval.

Ebasco designed Louisiana Power & Light Co.'s Little Gypsy station, 15 mi. north of New Orleans, and Bechtel designed Southern California Edison Co.'s four stations, including the two Huntington Beach plants under construction.

• **Little Gypsy**—The Louisiana station, which is scheduled to start up in February or March, is the first fully automated, closed-loop plant designed by

Ebasco. It is also a first for Daystrom Systems Div., which is supplying the computer.

This project had a forerunner, however, that gives it a basis of experience. Several years ago, Louisiana Power & Light had to add a generator to its Sterlington station in upstate Louisiana. It decided then to install a computer to monitor, but not run, the plant.

"Daystrom showed us their solid-state computer and we liked the way they talked and acted," says Harold L. Deloney, LPL's assistant chief engineer, "so we decided to go along with their ideas." Daystrom at that time had the first all-solid-state commercial computer—no moving parts at all.

Ebasco, too, had to be shown. "We had some times," Deloney recalls, "when the Ebasco man would play devil's advocate against Daystrom and start picking their ideas apart. The fur would fly but, just when it looked as if the whole project was going to blow up, he would smooth it down again."

• **Daystrom's Gamble**—Chalmer Jones, Daystrom Systems Div.'s general manager, took a big chance on the job, too. In order to win a contract, he had to guarantee that the computer would operate more reliably than anyone had ever before dared to predict for a commercial machine. Specifically, he promised that the computer system would operate for six months at better than 99% availability.

"And I don't mean reliability," says Jones. "I mean availability—and that counts time for preventive maintenance as non-available time."

The computer performed even better than its guarantee and was accepted by LPL about eight months ago. One thing it does is to make an efficiency calculation in two seconds that used to take a whole day. And it has run night and day for the last eight months at 99.994% availability, having been shut down for only 20 min. LPL engineers look at it in amazement, say they

wouldn't be surprised if it is the most reliable piece of equipment in the plant.

• **Million-Dollar Order**—Thus, Daystrom won the contract for the closed-loop control system at Little Gypsy, which will not only monitor the plant but also start it up and shut it down and keep it running at optimum efficiency at any output level.

The bill for full automation added \$1.1-million to the cost of the plant—a figure that checks closely with the incremental cost of automating the Huntington Beach (Calif.) unit for Southern California Edison, designed by Bechtel and using a General Electric Co. computer.

Of the extra \$1.1-million at Little Gypsy, W. T. Hess, vice-president and chief engineer of LPL, estimates that \$630,000 is the difference between the closed-loop control system and the lesser instrumentation for automatic data-logging and computing.

Hess justifies the investment on the expectation of these savings: \$1.5-million in reduction of major mishaps because the computer system can keep closer tabs on conditions than any man can; \$175,000 in fuel economy, figuring conservatively a 0.5% increase in efficiency; \$500,000 reduction in manpower as soon as two more computer-controlled units are built at Little Gypsy, and \$100,000 in reduction of routine maintenance because of superior control over temperatures and pressures.

• **Backup Instrumentation**—Little Gypsy's computer had to meet the tough assignment of being able to do everything that a human operator could do from the control room. This meant many infrequently used controls had to be built into the system, adding complications and cost.

At the same time, no one was ready to gamble that the computer control would work flawlessly from startup. So further complications and cost came from the necessity to provide a full set of standard automatic controls to back



PROFIT PROBLEMS—2

IF you bought a piece of equipment... how would you estimate its remaining useful life for tax purposes?

You might figure how long it would take for the asset to wear out and depreciate it on that basis. But you may have to discard it beforehand because technical developments have made it obsolete. Tax authorities recognize that obsolescence can make it necessary to replace equipment long before it wears out.

In deciding on the remaining useful life, many factors must be considered. For example, the motor on a lathe or other machine tool often may wear out more rapidly than the tool itself. Intensity of use, whether one shift, two shifts, or full time operation, has a profound effect on life. Company policy can range from preventive maintenance, which prolongs life, to breakdown maintenance, which has the effect of shortening life.

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up Little Gypsy's computer. In effect, these conventional controls are in continual operation but the computer can override them, as a human operator could.

A man at the controls would base his action on his interpretation of the automatic metering, and the computer had to be given the same judgment—artificially. That involves programming the computer to test control readings for credibility. If a reading doesn't seem to make sense, the computer can "reach through" the automatic instrumentation and take its own reading directly from a thermocouple in the automatic sub-systems, no matter how remote the instrument may be.

The backup instrumentation also means that LPL can still send the computer home to Daystrom if it doesn't work right, without shutting down the plant.

• **Chance of Breakdowns**—People who sell electric power have always lived in fear of a breakdown that puts a plant out of commission. A bearing failure or a boiler burnout can cost millions. Time for repairs leaves a unit unproductive for months. There has always been a fair chance that any steam power station would have such an accident sometime in its operating life.

Computer control provides a means of forestalling breakdowns in the rest of the plant. With its more vigilant supervision of critical operations and its faster reaction to ominous symp-

toms, the computer system is expected to cut mechanical breakdowns to a minimum.

The computer control system itself is vulnerable to breakdowns, but any defect is far easier to remedy than, say, a burned-out generator bearing. In fact, with computer systems already proving 99% reliable, a new philosophy is gaining ground among electric plant designers. Dispense with the backup instrumentation, they say, and rely entirely on the computer control system. Shutdowns would be brief, and their cost trivial compared with the year-round savings of the computer system.

• **Turning Point**—Of course, not only the computer but also all the controls would have to operate at extremely high reliability.

"It looks as if the computer can do it," says an Ebasco engineer, "but we won't know about the rest of the system for years yet." Nonetheless, many people are betting that the "conservative" utilities will be the first industrial group to toss out standard controls and turn operations over to computers.

The industry is already much further toward absolute computer control than any other industry. In fact, the Little Gypsy and Huntington Beach power stations, besides being computer-controlled, also get their operation instructions from simulation computers that serve entire power networks. So they are really computer-controlled plants run by other computers.



Oil—Maybe a Rich Payout

The first computer-controlled plant in the world to turn out a commercial product was set up by the oil industry: Texaco's polymerization unit at Port Arthur, which has been operating for more than a year. And oil has several other firsts in the field:

• The first use of large computers to make calculations directly from readings by instrument at remote processing plants. In the last month, details of two such projects have been revealed: (1) Standard Oil of California's fluid catalytic cracker, and (2) Standard of Indiana's application of computer automation to the world's largest crude petroleum still. IBM plays a big part in both projects.

• The first "packaged" process with computer control. The package is offered by Daystrom System's Div. for Universal Oil Products Co.'s Molex and Penex processes for distilling paraf-

ins out of gasoline. The Flowcon, a small, special purpose computer, is used.

• The use by many major oil companies of simulation techniques in production and distribution. Thus Esso uses simulation in scheduling operations of its tanker fleet; Esso also hints that it has had highly satisfactory results from a major project of simulating the entire production operations of the corporation.

• **Braking Factors**—For all its fast start toward computer controls, the oil industry has not bought systems as fast as the manufacturers expected. For one thing, the industry has had its own recession, slowing the building of new plant. And it's in new plants that computer controls are most likely to be installed. That's because the extra cost is easier to swallow as part of a larger expenditure, and because a new plant can be designed with enough instru-



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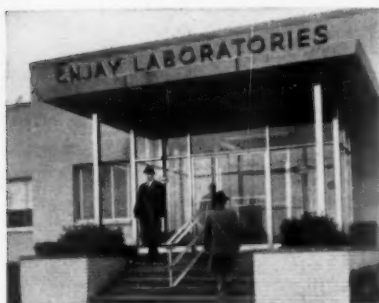
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mentation to take full advantage of a computer.

Texaco, with the first computer-controlled plant, believes it has proved the feasibility of computer controls, and thinks they are a promising means to increase production and reduce costs. But Texaco is not rushing to buy more computers, and it is certain to demand that future jobs show a higher payout potential than the polymerization unit.

• **Guidance**—IBM's big projects with Standard of California and Standard of Indiana will probably serve as a guide to the rest of the industry, once their results have been studied. Of special interest in both projects is their part-time use of really big computers for process control.

Both projects involve rather complex plants that handle great volumes of products. At Standard of Indiana, the pipe still processes 140,000 bbl. of crude per day, yielding 10 product streams. For Standard of California, the fluid catalytic cracker takes 40,000 bbl. a day; aviation and auto gasoline are its primary products, with a secondary yield of light gasses—propane, butane, and ethylene. Both plants are open loop, retaining operators to set the controls, although instrument readings are telephoned directly to computers, without human intervention. Operating instructions from the computer are sent back, and printed out on an automatic typewriter in the control room.

• **Part-Time Job**—A major departure in both projects is their use of the large IBM 704 computers on a part-time basis, instead of devoting a medium-size computer to the job full time. The hefty 704s can take on much larger and more complex programs than these smaller control computers that now run closed loop plants. In their spare time, the 704s can be set to routine scientific chores or even to running other processes. But time on big computers is expensive—over \$200 an hour—and scheduling is a knotty problem if they have process control responsibilities.

Standard of Indiana began to study computer control at Whiting, Ind. in 1959, at a small unit for processing crude. The conclusion was that the operation of a new, bigger pipe still could be stepped up substantially by improved instrumentation plus the rapid analysis made possible by a large computer. One point revealed by the first study was that in the normal course of events a human operator would not feel justified in changing control settings on the basis of a single instrument reading plus the long delay in analysing the results. It was clear that manually operated stills would be unlikely ever to reach peak capacity.

The large still went on stream in May, 1959, and IBM and Standard soon decided to go through with a complete on-line operation. It was found that there were some 100 controllable variables affecting the yield of the still, but only 19 of these were considered important enough to be included in the computer program. These 19 had to be matched to a set of 160 other considerations reflecting the physical limits of the plant, not to mention such other variables as weather, rates of feed, composition of feed materials, and management decisions on production targets. Into these complex relationships were inserted such economic variables as prices and costs, actual quantities of products, and consumption of power and raw materials.

• **Shrinkage**—The result was a truly monumental computer program, whose 75,000 instructions can be coped with only by a large computer. However, the programmers predict that when the development is complete, they will be able to reduce the program by a half to three-quarters. A reduction of that scope would put the program within the range of a smaller computer, and Standard of Indiana is even now considering whether to buy one.

As the plant operates now, it puts on quite a spectacle. The automatic recording equipment takes readings from 196

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instruments, including a number of on-line analytical units that tell the chemical variations in the products. The scans, which take about five minutes, are made almost continuously, and are sent by phone line to the computer center. When it has three scans in hand, the 704 computer averages the values and subjects them to logic tests to see if they are reasonable. Then the computer figures out any changes in settings that would improve performance in the still, and flashes them back to the human operators. This offers a bonus in that several controls can be reset at once, rather than one at a time.

Standard of Indiana has not yet figured exactly how much it has benefited from its computer program, but the engineers are enthusiastic. They are already planning computer control for the company's Ultra-former, which upgrades the octane of gasolines. Next in line are the company's units for catalytic cracking and alkylation. All told, there are 10 engineers from IBM and 15 from Standard teamed up at the Whiting refinery.

• **In California**—The control project at Standard of California's catalytic cracker is even more complex than the one at Whiting, since there are more variables to be included. An unusual feature of the project is that the refinery—at El Segundo, near Los Angeles—is controlled, via telephone line, by a computer in San Francisco.

The project has already done well enough to make Socal engineers think seriously of installing an on-line, open loop control system, with its own small on-site computer, at the El Segundo pipe still.

The big computer operation in San Francisco would remain available for problems beyond the scope of its small cousin to the south—such as major reprogramming chores. Actually, Socal found that its 704 got overloaded, with process controls added to its regular duties, so the company is installing a giant IBM 7090, six times as powerful as the 704. Leased telephone lines link this setup to Socal refineries at nearby Richmond, Calif., in Southern California, and clear to the East Coast.

Howard W. Crandall, manager of the computer center, says Socal started out with the main goal of using simulation to improve control of operations; work on on-line controls has been an added starter. And California Research Corp.'s Eneas D. Cane, who has been working on the control project, says he expects a full on-line installation to be a fact by 1961.

• **Voices of Doubt**—Not everyone in the oil industry is as sanguine over on-line controls as Standard of Indiana and Socal. Esso Research holds out little hope to computer salesmen unless they can offer cheaper and smaller equipment for on-line installations.

Phillips Petroleum Co. generally goes along with Esso's on-line views, though it enthusiastically uses computers for improving processes and has bought one from just about every maker of computers. Phillips' complaint is that no one makes a special purpose digital computer as a standard off-the-shelf item. The company says it has to make up its own special purpose computers from modular components, though it won't specify what they are used for. Phillips does admit to having at least 70 special purpose analog and digital computers doing control jobs in its many oil and petrochemical plants.

Just recently, Phillips threw a scare into the computer makers when it revealed a detailed breakdown of a 16% increase in ethylene production that a computer had helped secure at its Sweeney refinery. The gain paid for the experimental work and the computer in a single year, but the breakdown showed that only six of the 16 percentage points of gain came from the on-line use of the computer. The other 10 points, though due to the computer's analysis, were a permanent gain, no longer dependent on the computer. The six points of continuing contribution by the computer were not enough to justify its use, so Phillips took the instrument, an Autonetics Recomp II, off the job. Since then, the computer, which is mounted on a trailer, has been scheduled for travel to other plants where it can make its gainful analyses; and Phillips has ordered another, fancier, trailer-mounted computer.

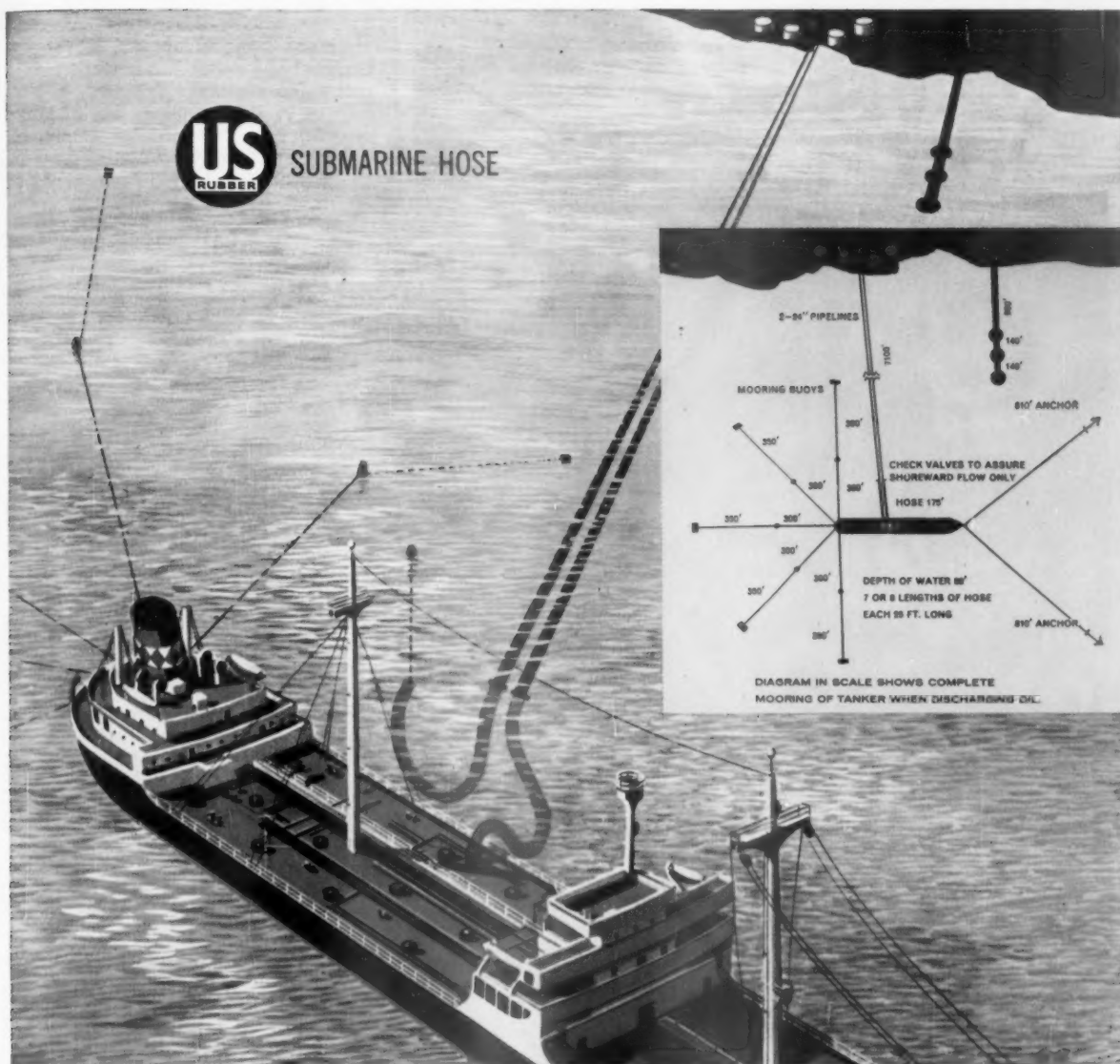


Chemicals—a Fog of Secrecy

"It cost us a bundle just to find out where we might use process computers," a chemical executive told **BUSINESS WEEK**. "Let the competition spend their

own money to find out for themselves. I'm not going to tell them."

That's a frequent attitude in the chemical industry; even the most gen-



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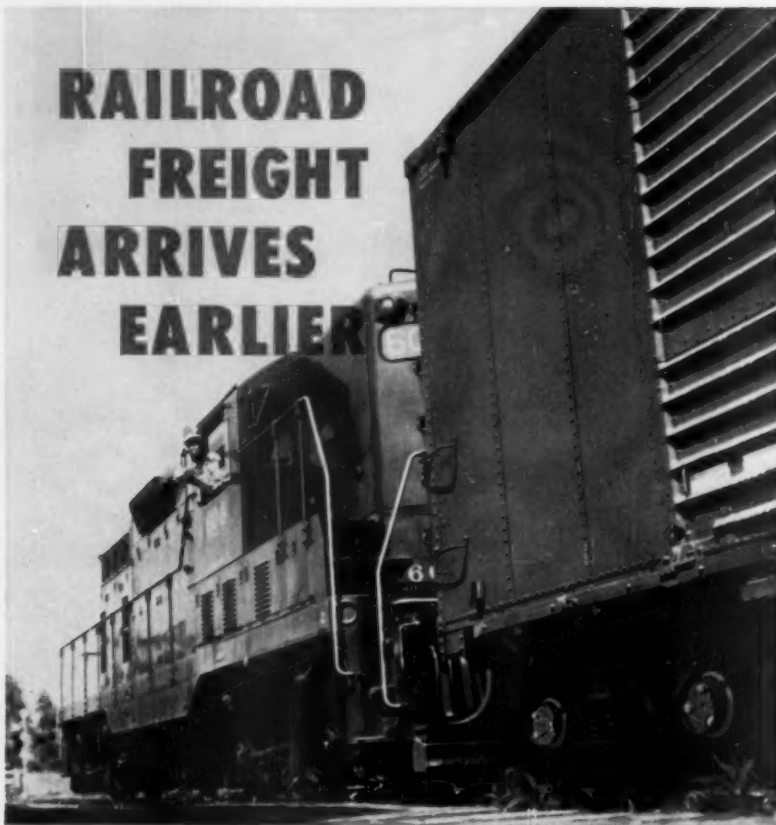
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eral information about the how and where of using computers is scarce. Du Pont will admit it has many computers—it's a pioneer in speeding operations at distant plants by hooking them up to a computer by telephone circuit. The industry reports du Pont has been working with IBM on a major control project for several years, but neither of the companies will say yes or nay.

• **Model Trouble**—In the present state of the controls art, du Pont engineers lean toward analog computers, which generally cost less than the all-purpose digital types. Like many others in the chemical and petroleum industries, the du Pont people find that their greatest problem is making the mathematical model of the process. Indeed, this problem is tougher for the chemical people than for anyone else. It's a formidable job to pin down its multifarious processes and products in neat mathematical form.

What's more, no one company can benefit much by the efforts of others because of the industry's innate secretiveness—due mainly to maneuvering for position on patents—and the lack of processes in common.

All in all, computer control is just not economic in older plants, according to engineers at du Pont and many other companies. They don't have enough instrumentation to make computer controls worthwhile, and the cost of installing better instruments and more precise controls would not be justified.

• **Goodrich Plants**—Only three computer-controlled chemical plants have been unveiled to the public—meaning the trade and general press. Two of these belong to B. F. Goodrich Chemical Co., which is scarcely regarded as a full member of the basic chemicals club. Both plants are at Calvert City, Ky., where one produces vinyl monomer, the other acrylonitrile, for plastics. The two plants are run by a single RW-300 computer supplied by Thompson Ramo Wooldridge. Goodrich says it is well satisfied with the results.

The only computer-controlled plant in basic chemical production is Monsanto's Barton plant in Luling, La.—near New Orleans and not far from Louisiana Power & Light's Little Gypsy setup.

Monsanto picked the Barton ammonia plant for its first venture into control by a digital computer—also an RW-300—because it was new and already highly instrumented. In size and scope it is comparable to Texaco's polymerization plant and the two Goodrich operations; like them, it uses the computers to adjust set points on conventional pneumatic remote controls.

Monsanto's idea was to wring the last drop of potential production out of the



President: So what? We're not in the market for bonds. You are supposed to help us find the best possible plant location for our expansion program.

Engineer: Yes, sir . . . but good government is a major factor in guaranteeing the right kind of industrial climate for such a big investment, isn't it?

President: Certainly, but . . .

Engineer: North Carolina is the state where good government is a habit. The fact that Moody's Investors Service and Standard and Poor now give North Carolina bonds the highest available rating reflects nation-wide confidence in North Carolina's sound government and stable fiscal policy.

President: That is impressive. But what about our plant location?

Engineer: I'm all set to recommend several good locations—all in North Carolina. That State has what it takes to make any industrial operation successful.

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NORTH CAROLINA

how to keep dollars indoors



It isn't just hot air. It's dollars ditched when air goes out the window instead of being purified with activated charcoal and recirculated. In schools, hospitals, hotels, etc., air purification teams up with heating and cooling equipment, saves money. Smaller installations do bigger jobs.

how to keep an apple



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how to stay alive



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activated charcoal



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Barnebey Cheney



Barton plant, which runs continuously. Its capacity depends on the volume of gas that its big compressors can cram into the reaction vessels. This in turn is largely dependent on the weather. A compressor, just like a jet plane, is less efficient on hot, dry days than on cool, damp ones. Humidity is also a variable in the chemical process itself, since the air pumped in from outside enters the product stream, and its water content must be carefully controlled.

• **Quick Changes**—Because it can adjust the plant so quickly to temperature changes, the computer can do a much better job of maintaining peak production than a human operator. Monsanto won't say exactly how much better, but even a small percentage increase would add up to a lot of fertilizer over the years in a plant that turns out about 500 tons of ammonia each day.

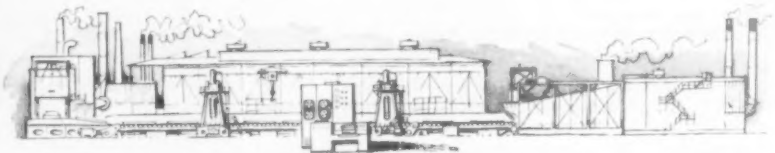
You can make a good guess at the cost of the installation, despite Monsanto's reticence. Company engineers have indicated that the instrumentation and controls that had to be added to round out the closed-loop operation came close to costing as much as the computer itself. Since an RW-300 costs in the neighborhood of \$100,000, it's likely that the whole installation of

computer control cost more than \$250,000, including engineering expenses.

• **Trailer Mount**—Monsanto has more than a dozen systems engineers working on the application of digital and analog techniques to process control. The company won't discuss plans for installing more in-line computers, but it is known to be working toward more systems analysis. The company plans to use an \$85,000 trailer-mounted analysis instrument at its Texas City petrochemical complex. This should provide plenty of data to guide future decisions on installing computers.

Monsanto may find, as Phillips Petroleum did, that a periodic check on plant performance is the most economic road to efficiency, and that computer control won't be needed in existing plants. Grant Russell, head of Monsanto's systems engineering group, says that control studies are worth their cost even if a computer is not installed.

It's in future chemical plants that computer controls have an assured future. Several companies, including Dow Chemical and Union Carbide—which forbids its executives even to discuss computers with outsiders—have pilot plants with on-line computers. It is likely that full-scale production units will follow.



A Bright Future in Steel

The steel industry is almost made to order for supervision by computers. In the broadest sense, making iron and steel is a process, and processes are well adapted to computer control, while mechanically complex jobs of, say, assembling a product are not. At the same time, the steel industry's prod-

ucts are batches of separate items in such bewildering variety of compositions and shapes that computers are welcomed just to keep track of them all.

Computers first went to work on the same sort of data-processing as in dozens of other industries: accounting, inventory control, production schedul-

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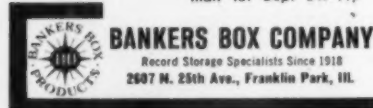




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... getting the bitterly competing companies—Westinghouse, GE, and Daystrom—to cooperate on this project may be the toughest control job of all . . .

(STORY on page 50)

ing, research. They began moving into control of production operations only about four years ago.

• **Rolling Mill Boss**—The first production job involving digital equipment, but not computers, was simple routine. Sets of punch cards were worked out that would, through reading devices, automatically adjust the rolling mill for each pass as a metal piece is run back and forth to squeeze it into sheet or plate.

There are many suppliers of card-programmed rolling mill controls. Westinghouse alone has installed 16 or 17 since it produced its first program in 1957 for Jones & Laughlin Steel Corp. Many have been installed also by the General Electric Co. and the Square D Co.

The first card programs were compiled on the basis of experience—a certain series of passes for a certain size of ingot at a certain temperature. But each alloy and each size of ingot requires a different program, so the program decks kept growing until some libraries now contain an unwieldy 20,000 or so "routines."

• **Next Step**—Even this mass of programs wasn't enough to fit all situations. For example, if the ingot temperature isn't what the card routine presupposes, or if the temperature varies during the process, the preprogrammed series of passes doesn't do the prescribed job.

So the steelmakers' next step was to use an on-line computer to recalculate the number of passes and the roll pressures according to changes in temperature that may occur in the process.

Several rolling mills now under construction will be almost completely controlled by computers. When an ingot reaches the roughing mill from the holding furnace, its temperature, weight, and measurements will be taken automatically and fed to the computer. In a split second, the computer will figure out the roll settings and the number of passes through the rolls. All the computer has to know beforehand is the composition of the alloy and the size and gauge of the coil or sheet that's to be made.

Automation won't stop there. As the metal passes through the rolls, its temperature will be measured continuously and the rolling pressure also recorded. If this information doesn't jibe with the prearranged program, the computer will automatically recalculate

the whole program and issue the necessary orders to the mill's controlling devices.

• **In the Works**—At the end of a run, the computer will print a ticket identifying the coil of metal—its dimensions, weight, and metallurgical makeup. It also provides accounting, payroll, and inventory data.

A U.S. Steel spokesman estimates that production control computers will be tied directly with accounting and inventory data-processing in a few years.

Westinghouse is installing computer controls on three primary reversing mills: U.S. Steel's South Works near Chicago, Republic Steel's Gadsden Ala. Mill, and Crucible Steel's roughing mill at Midland, Pa. General Electric has sold four computer systems to steel companies this year and expects to install at least 10 more by the end of 1962.


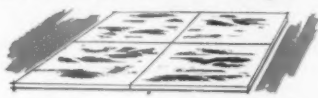




Daystrom Systems Div. is putting one of the most complex computer control systems in Great Lakes Steel Corp.'s new hot strip mill near Detroit (see diagram p. 59). The computer will do the controlling directly instead of through punch cards. Daystrom's computer will run the roughing mill stands through a Westinghouse PRODAC digital control system and the seven-stand finishing mill through General Electric controls. Getting the three bitterly competitive companies—Westinghouse, GE, and Daystrom—to cooperate on this project may be the toughest control job of all.

• **Pioneering**—It's hard to find an overall pattern in how steel companies are putting computer control to use. Generally, the industry credits Allegheny Ludlum Steel Corp., among the specialty steel producers, and Jones & Laughlin, among the primary producers, with being the most adventurous and advanced.

Allegheny Ludlum says it trains its own staff for computer work, so as to protect the knowhow its men pick up. The company says it is experimenting with analog as well as general-purpose digital computers.

A Jones & Laughlin engineer next week will present a paper at the American Iron & Steel Institute on technical details of what the company considers the first use of digital computer control in a steel mill. He'll tell what the company has learned about operating a GE computer control system for the continuous annealing line in its tin plate

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mill. The system has been at work since last spring.

This installation demonstrates the speed and versatility of computer control. Steel strip passes through the annealing furnace at 2,000 ft. per minute. The computer controls the zone temperature regulators in the furnace, keeps track of the changes in material where a coil of different composition has been welded on the coil in process, and changes the furnace temperatures as the new batch rolls through.

It also continuously collects quality-control records, supplies calculations on incentive pay for the payroll department, and punches data on tape for accounting and inventory. It tucks away all sorts of process information that J&L expects to find useful in improving the process and in designing new furnaces.

• **Blast Furnace Next?**—J&L is also putting a computer in charge of a tin plating operation, and U.S. Steel has used one to control a sintering plant. But so far, computers have found a role only in processing that's apart from the basic business of making the iron or steel itself.

Computers are being used, however, to figure the input recipes of oxygen steel furnaces, and many trade people predict that these will be the first actual steel-producing units to feel the computer's electronic touch.

The real jackpot would be to put the biggest volume producer of all—the blast furnace that makes iron—under control of computers. Steelmen differ on how feasible this is, but they're attacking the myriad problems on several fronts.

One is Inland's big hush-hush project in collaboration with IBM. Another is U.S. Steel's work on a new blast furnace at its Duquesne Works that is a model of instrumentation—not for computer control but for analysis of the process. U.S. Steel hopes to find out what goes on inside a big furnace, then to produce a reasonably exact mathematical model as basis for practical study of computer control.

• **Study by Linde**—A few months ago Linde Co. Div. of Union Carbide Corp. told the results of a simulation, on a large computer, of a blast furnace operation. The variables were few—mostly such things as blast temperature and the oxygen and fuel content of the blast—but they were the basis for a complex mathematical model of the operation.

The computer performed impressively merely in the mathematics of the model, largely the figuring of the heat balances. Linde scientists estimated that this part of the study would have taken 15 years with manual calculations. Even more impressively, though, the big computer in three minutes ran a

series of simulations that represented 24 years of testing on a real furnace.

The simulations showed a result that explains why everyone is looking eagerly toward computer control of blast furnaces: Production could be boosted as much as 30% by the best possible combination of oxygen and fuel mixes, pressures, and coke rates.

• **Much to Learn**—Results of these simulations were so startling that the accuracy of the computer was questioned. Spot checks were run in a blast furnace, and the tests found few errors of more than 2%, none of more than 3%.

This seems to indicate that almost enough is known about blast furnaces to put them under automatic control. But that's not quite so. For one thing, more variables will have to be introduced than the Linde study included.

Engineers say, for example, they have to know more about the burden, the materials that are dumped into the top of a blast furnace and that end up as iron, gases, and slag. Right now, there is no way to analyze it contin-

uously and accurately all through the melting process.

Greater use of beneficiated ores, over which the steelmakers have much closer control of content, may make it easier to predict performance in blast furnaces. U.S. Steel is even considering use of a computer to control the blending and processing of ores at the mine.

• **Justifying Investment**—Several steel executives agree that the industry now has the hardware—the computers and the controls—to go to automation of mills from start to finish. They see the big questions as the return on investment, development of people to handle automated controls, and the improvement of basic knowledge about processes.

The payout is still in controversy. U.S. Steel spokesmen think the investment is worthwhile in new plants but is often hard to justify, economically, in older plants. "It's easier to hide the cost in new plants," one says. But a J&L engineer says his company feels this is no barrier, that improvement of production and of quality control yields a quick return on investment.

Computer Controls in Every Plant?

Each of the four big process industries—power, petroleum, chemicals, and steel—will put more computers to work in control systems than will any other industry. But they are not the only process industries to use them. Computer controls are already being set up to control gas pipelines and to run cement plants. Computers are used to make batches of ice cream and provide formulas for cattle feed mixes. Managements in other process industries would be foolish not to consider what computer controls might do for them.

There's a rather different problem in the industries whose products end up as units, rather than as bulk materials; such products—for instance, automobiles—are called discrete in the trade. Ninety-nine out of a hundred engineers will tell you that the whole concept of computer controls is uneconomic for unit production. But at least one such production and assembly line is being run by closed-loop controls. That's a Western Electric plant that turns out precision carbon resistors. The furnace and grinding operation that makes the resistors is watched over and controlled by a Royal McBee LPG 30, one of the smallest and least costly computers on the market. In addition, the LPG 30 tests and records the quality of each resistor.

• **Morale Builder**—How far computers will be able to move into industry in general is still highly moot. But there's one point on which all hands are agreed:

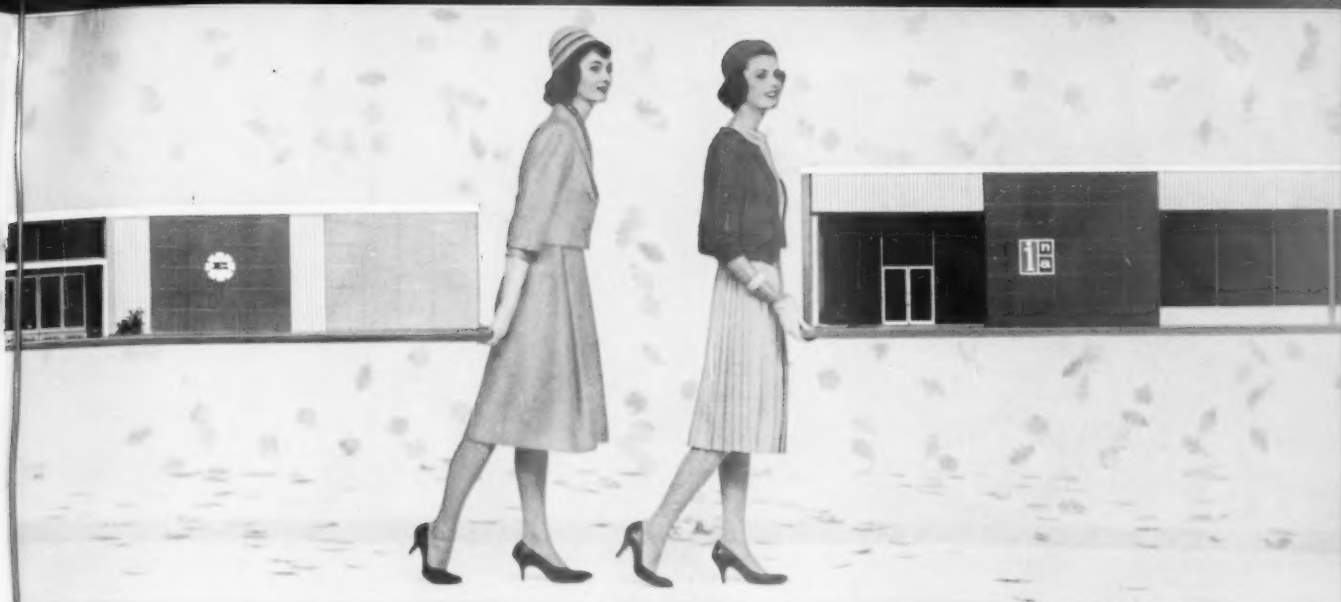
It's wonderful for morale. That's because the brainwork that they take over is very largely the drudgery of routine calculation. But the new brainwork for which it has created a need has brought a sense of achievement and enthusiasm to the scientists and engineers who work with the complicated monsters.

An Ebasco engineer says: "The difference in morale is almost unbelievable. Engineers on automation projects are really excited by their work." A steelman adds: "For our engineers, it's the greatest thing since the last big pay increase. The men feel they are getting out of the specialist hole they were stuck in and getting a chance to tackle whole problems—or much bigger pieces, anyway. You have no idea what that means in terms of raising their spirits."

• **Pleas for Jobs**—A manufacturer of computers was asked if his customers ever hired away his application engineers. "No," he said, "We have the other problem. Our customers' engineers want to come and work for us."

This overwhelming enthusiasm can be a two-edged sword. As the chemical executive said, it can cost a bundle just to find out where you need—or don't need—computers. Just like anyone else, engineers can get overenthusiastic, and they can spend you into bankruptcy.

On the other hand, it can be foolish to delay too long installing computers and developing a staff that knows this new technology. All this adds up to a management decision—one that no computer can make. Not yet, anyway. **END**



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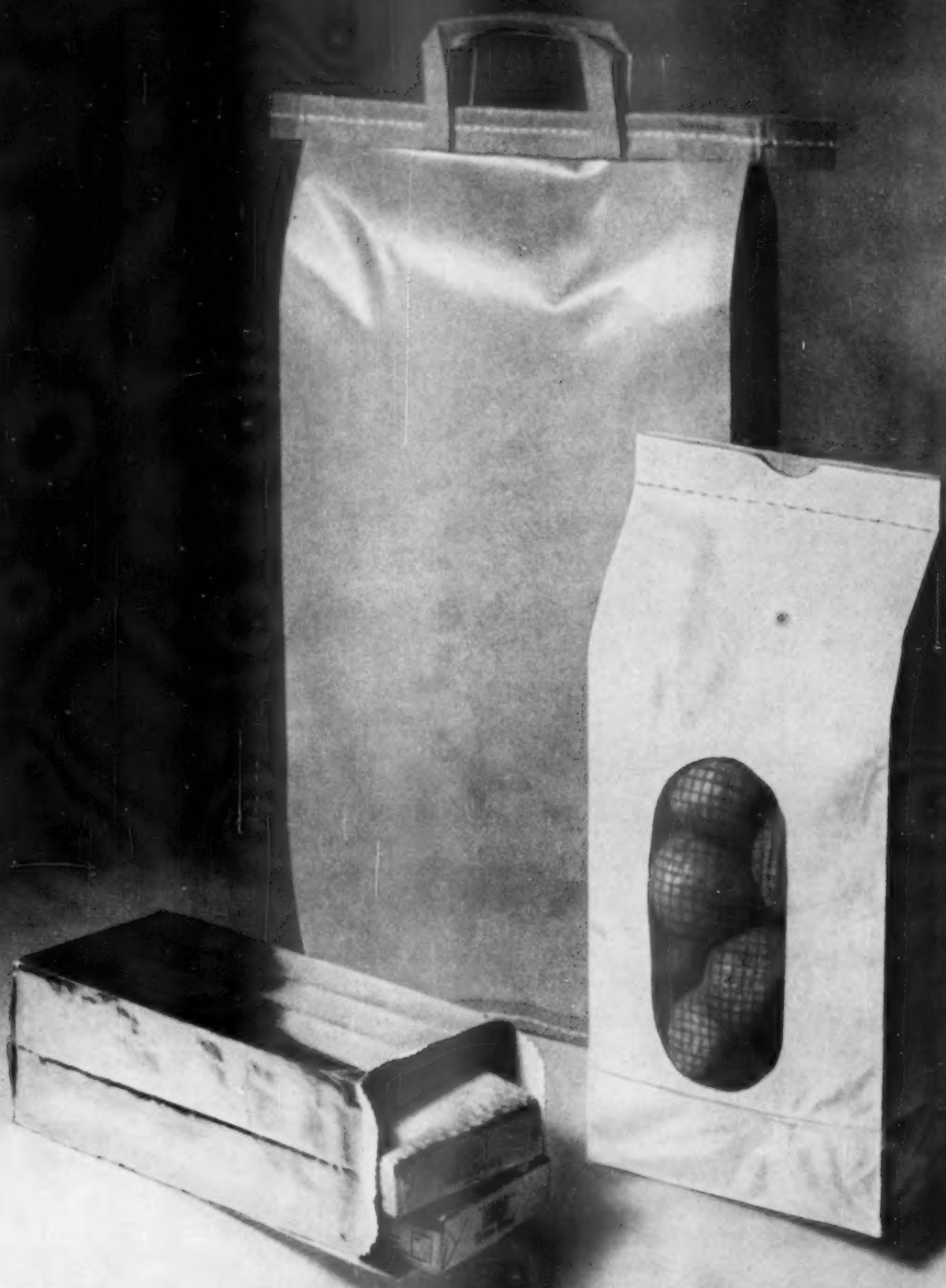
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In Finance

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Edge Act Company for Argentine Financing Formed by Boston's First National Bank

The drive by U. S. banks to capture international business takes many forms. One that is attracting more attention these days is the Edge Act way—Edge Act companies are banking corporations chartered by the Federal Reserve to engage in either foreign investment or banking activities. Latest entry in the field is First National Bank of Boston, which has formed a subsidiary to operate an Argentine finance corporation.

First National's Argentine operation, capitalized at 100-million pesos (about \$1.25-million) will handle short-term commercial paper of local distributors of farm equipment, trucks, and buses, then branch out into other wholesale and retail loans. It's the first U. S. bank to set up such an operation in Argentina, although several U. S. banks have gone into other Argentine ventures over the past year.

There's a big need for financing facilities in Argentina, which has only a few commercial finance companies. This lack contributes to the extremely tight and expensive money market there. First National, for instance, expects a rate of return of 20% to 30%.

The bank runs the risks, of course, of changing values in the Argentine peso. But it feels the Frondizi government has kept currency values relatively firm, and should continue to do so over the next few years.

First National's move reflects the interest of U. S. banks in setting up Edge Act corporations. But Victor Rockhill, president of Chase Manhattan's Edge Act subsidiary, Chase International Investment Corp., warned recently that unless government-sponsored organizations, such as the Export-Import Bank, left more business to private institutions, growth of Edge Act corporations would be limited. Rockhill says Edge Act companies are directing more attention to direct investment than to short-term bank financing, and that this trend could falter if tax-exempt government agencies continue to provide long-term funds at low rates.

• • •

FDIC Plans Curbs on "Link Financing," Calls Deposits Ineligible for Insurance

"Link financing"—which is gaining popularity as a device to circumvent compensating balance requirements of commercial banks (BW—Oct. 15 '60, p66)—has come under attack from the government's Federal Deposit Insurance Corp., which insures bank deposits up to \$10,000.

In link financing, a borrower arranges—usually through a broker—to have funds deposited in his bank. This deposit takes the place of a compensating balance—the portion of the loan, normally about 20%, that the borrower otherwise would have to leave on deposit at

MORE NEWS ABOUT FINANCE ON:

- P. 84—Fed's new series sharpens debate over money supply.

the bank. For this service, the borrower pays a fee, which can run from 2% to 5% of the deposit.

Royal L. Coburn, FDIC's general counsel, who calls link financing "an unsound banking practice," says the FDIC is planning to curb its use. He adds that the deposits that a bank receives in a link financing deal are not eligible for FDIC insurance; he says that newspaper advertising implying that such deposits are insured is "misleading."

Leading link financing brokers, however, take sharp exception to Coburn's views. Morton W. Goldberg, chairman of B. C. Morton & Co., a link financing broker that solicits funds from the public by advertising bank time deposits with a 5% return and "principal insured," says that the FDIC statement on the insurability of link financing is "way out in left field." He says that "link financing deposits are no different from any other," and that B. C. Morton plans to go to court to try to get a so-called declaratory judgment saying that the FDIC position is in error.

• • •

Complex Empire of Colorado Financier Seen in Danger of Collapsing

The financial complex erected by Colorado financier Allen Lefferdink is in danger of "collapsing," according to the state's banking commissioner, Frank Goldy.

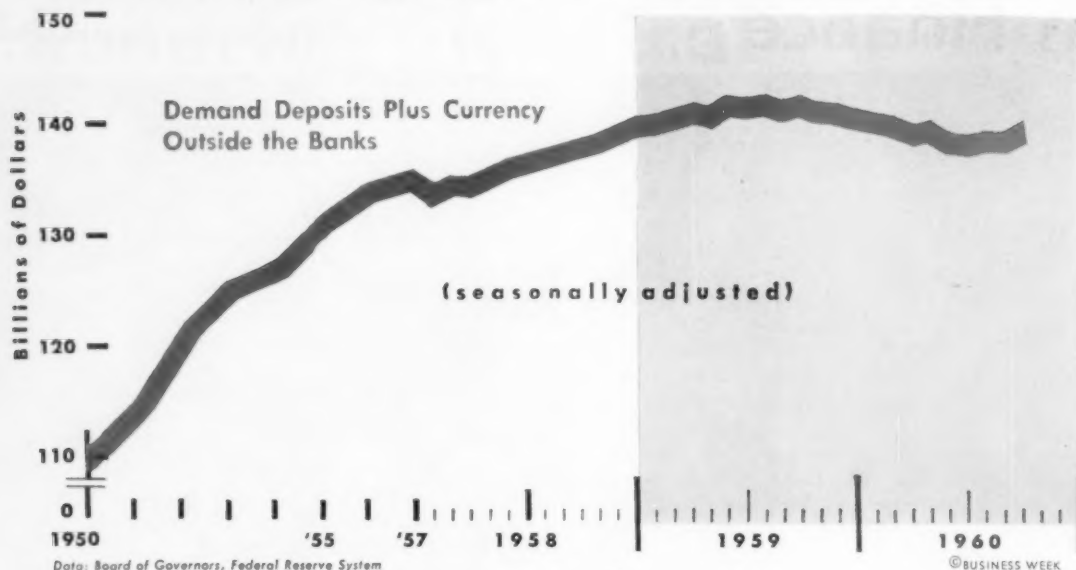
The state has seized Lefferdink's Boulder Industrial Bank and appointed a receiver to administer the bank's assets. In addition, Lefferdink has been forced to file bankruptcy petitions for reorganization of three of his firms—Allied Colorado Enterprises, Boulder Acceptance Corp., and Allen Enterprises, Inc. And the Internal Revenue Service has filed liens against him for \$114,000 back federal taxes.

His Magic Mountain amusement park is now in the charge of a referee in bankruptcy who has recommended that he be declared bankrupt, and Tower Merchandise Mart is in the hands of a receiver.

Several weeks ago, Lefferdink sold off his Colorado Credit Life Insurance, Inc., and its nine-story Boulder office building to American Investors Life Insurance Co. of Houston. However Green Shield Insurance Co. of Boulder has obtained a temporary injunction holding up this transfer, pending court action on its claim that it had bought part of Colorado Credit Life business but that Colorado Credit won't turn over \$515,000 in insurance reserves that are allegedly part of the deal.

Lefferdink, who has sold over \$12-million worth of stock in different companies during the past five years, is currently reported trying to arrange new financing to prop up his empire. In August, when he tried to sell stock in another new issue, Allied Lending Corp., he acknowledged to the SEC that his various enterprises had lost almost \$4-million in late 1959 and 1960.

The Fed's New Measure of the Money Supply



Scarcity Where It Counts Most

The Federal Reserve Board this week published a new series of statistics on the money supply (chart). In doing so, the Fed for the first time gave official approval to the classic definition of the money supply—demand deposits (checking accounts) plus currency in the hands of the public.

The Fed's decision to come out with a precise definition is of more than routine interest to both bankers and businessmen. Till now, there has been a long-standing argument over just what constitutes the money supply—and whether the available supply is adequate to the needs of a growing economy.

This debate has sharpened in the past year. Usually, the money supply increases when the Fed eases up on the credit reins. But this time it hasn't happened, though the Fed moved to easier money last March. The downward trend of the money supply seems to have been arrested, but the response has been far smaller than the Fed's moves ordinarily could be expected to produce. Some economists say that this is a sign that the Fed's policy is still too restrictive to allow for economic growth.

• **Other Factors**—Many economists think it is foolish to talk about the money supply without including "near money" or "money substitutes"—bank time deposits, savings and loan shares, Treasury bills, and other short-run money market investments. If these are included in the definition, the picture looks much better.

By accepting the narrow classic con-

cept, the Fed provides support for those who think there is something radically wrong with monetary policies. The money supply, as the Fed defines it, is not behaving the way it should.

As for the new series of statistics, it closely parallels what the Fed has been publishing on demand deposits and currency—except that the total runs consistently about \$2-billion higher.

At the higher levels of the new series, the total money supply in September was \$140.5-billion down some \$2.5-billion from the all-time peak of July, 1959.

• **Surprise**—This is contrary to normal expectation, and officials of the Fed in Washington and at the Federal Reserve Bank in New York are a bit puzzled by the perverse pattern. In orthodox money management, the growth of the supply is restricted when money is tight, because the Fed is not allowing bank reserves to expand. In easy money periods, the reverse should be true, because the Fed is pumping additional reserves into the banking system. These reserves would be loaned to business, thus increasing demand deposits and the money supply.

Though you can't now establish a direct connection between the slowdown in the economy and a lack of adequate funds, the Fed is intent on seeing that no shortage develops. It wants enough expansion in the money supply to meet "legitimate" needs of business for credit, but not enough to restart the inflationary spiral.

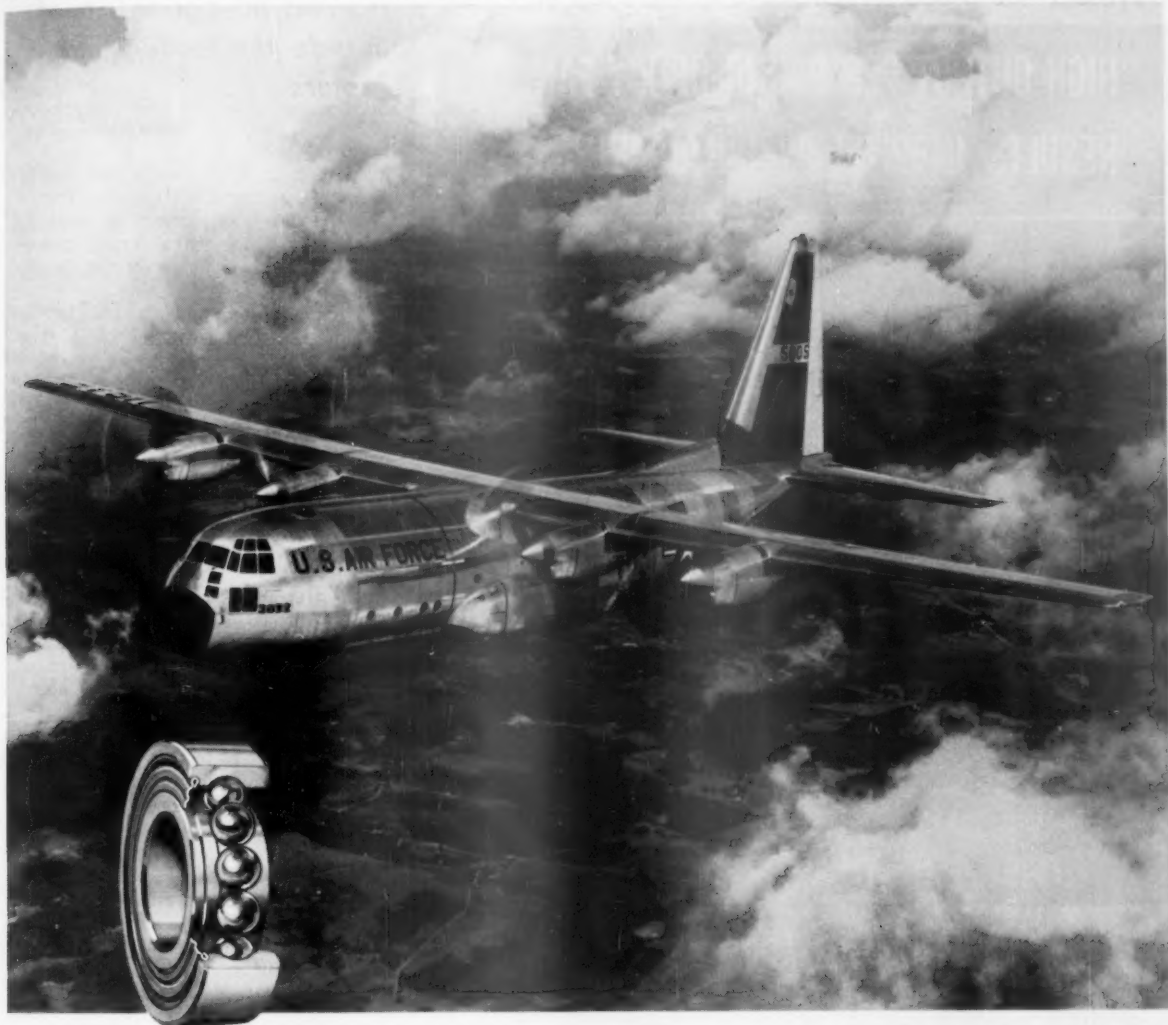
To understand the Fed's concern, take a look at the way money has eased since the start of the year. In January, credit was extremely tight, and the banking system had a reserve deficit of about \$500-million. That meant that, over-all, borrowings from the Fed to meet reserve requirements exceeded free reserves by \$500-million. Today, net free reserves of the member banks—the excess over borrowing—were running between \$350-million and \$500-million.

• **Reserves Rise**—The catch is that in the same period when the Fed allowed bank reserves to increase by approximately \$1-billion, the money supply actually declined by about the same amount. It's this that has baffled the experts, despite several partial explanations that can be offered:

• **Corporate policy** has been to cut bank balances to the minimum. Excess cash is being invested in the open market, thus frequently draining deposits out of the banking system. This long-time policy spread to a lot more companies last winter, when rates on Treasury bills shot up close to 5%. Now, with the bill rates back down near 2%, companies are still holding down their bank balances.

• **Velocity**, the rate at which demand deposits turn over, has risen sharply, due to sharp pencil work by corporate treasurers and to a generally more efficient use of bank balances. In September, demand deposits at New York banks turned over at an annual rate of 68.5 times, a new high since the

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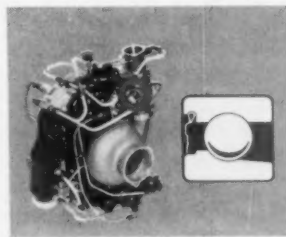


Photo: Courtesy Stratos Division, Fairchild Engine and Airplane Corp.

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... about \$1-billion in new reserves, have gone to banks outside the leading money centers ...

(STORY on page 84)

hectic days of 1929 and its peak rate of 124.4 times. Since this means that a given amount of money is working harder, it reduces to a certain extent the need for an increase in the money supply.

These are long-term trends, largely outside the Fed's control. But they suggest that the environment in which monetary policy must operate is changing.

- "Maldistribution"—The Fed itself may have contributed to the recent drop in the money supply. There's little question that the nature of its easy money moves in 1960 have contributed to what one economist calls a "bad maldistribution of lending power." Reserves have piled up in country banks that have been unwilling or unable to put them to work; the big city banks, which have had to bear the brunt of lending to business, have remained tight.


This result wasn't what the Fed planned, but it happened. Now money market men are talking about "statistical ease" in the banking system, implying that easy money is more apparent than real.

Since August, the Fed has moved twice for easier credit, the second time only a week ago. It has stepped up the amount of vault cash that member banks can include in reserve requirements, and it made an outright cut in the requirements for banks in New York and Chicago—down to 16½% from 18%.

These moves will help ease the position of the big banks as intended. In New York and Chicago, they get about \$520-million in additional reserves. But the biggest benefits, about \$1-billion in new reserves, have gone to banks outside the leading money centers.

- In New York—The high loan-deposit ratios of the big city banks point to the illusory nature of the easing. In New York in mid-September the ratio was still at 67%, close to a cyclical peak. (This was before the second cut in reserve requirements, which doesn't actually take effect until Dec. 1.) A year or two ago you'd have expected a figure like that only when the Fed was pressing down hard on credit.

New York banks carry about 25% of all commercial and industrial loans—and a much larger proportion of loans to the big national corporations. These banks, more than others in the U.S., depend



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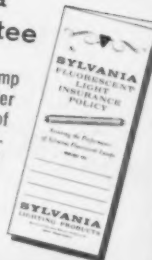
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on demand deposits for their lending power. Time and savings accounts are only 16% of their deposits, as against 32% in big city banks elsewhere, and almost 40% in country banks. Since time deposits have been increasing overall, including them in the money supply would make the national picture look much rosier. But the New York banks, the biggest suppliers of business credit, haven't been helped materially by the surge in time deposits.

With individuals as well as corporations becoming increasingly conscious of interest rates—as illustrated by the S&Ls' rapid growth compared to other savings mediums—excess liquidity will probably continue to pile up in banks and S&Ls. But the increase will be outside the areas where the money could be used most effectively to satisfy the demands of business for credit.

• **Worriers**—This imbalance causes the drop in the money supply, which is worrying the Fed. It is worrying others, too. Aubrey G. Lanston & Co., Inc., a major dealer in U. S. government bonds, noted shortly before the Fed's latest cut in reserve requirements that the "poor distribution of reserves still gives the money market an atmosphere of tightness. It also has the effect of slowing down the expansion in the money supply." Others in the field agree.

Critics of the Fed feel that it is chiefly to blame for the failure of the money supply to expand, because it clamped down hard on credit during the 1958-59 boom. Economic advisers of Sen. John F. Kennedy mostly feel that the rate of growth in the economy and the rate of growth in the money supply are closely related. They think that when one slows down the other does, too. Essentially, this is the thinking behind Kennedy's attack on what he calls the "tight money policies" of the Eisenhower Administration.

• **Conservative View**—More conservative economists doubt that the relationship is as simple as this. Thus Alan Greenspan, of the economic consulting firm of Townsend-Greenspan & Co., Inc., thinks that limiting the expansion of the money supply is the best means of achieving long-term economic growth. He says that you invite a speculative boom—and the chance of a subsequent collapse—in the securities markets if you allow the money supply to expand too rapidly.

There's no way to reconcile these differences. But it may not be necessary. If the Fed moves toward still easier credit, a growing share of the excess reserves in the banking system ought to filter through into the money market banks that can put them to work. An economist for one of New York's largest money market banks says: "We're going to have a nice rise in the money supply soon." **END**

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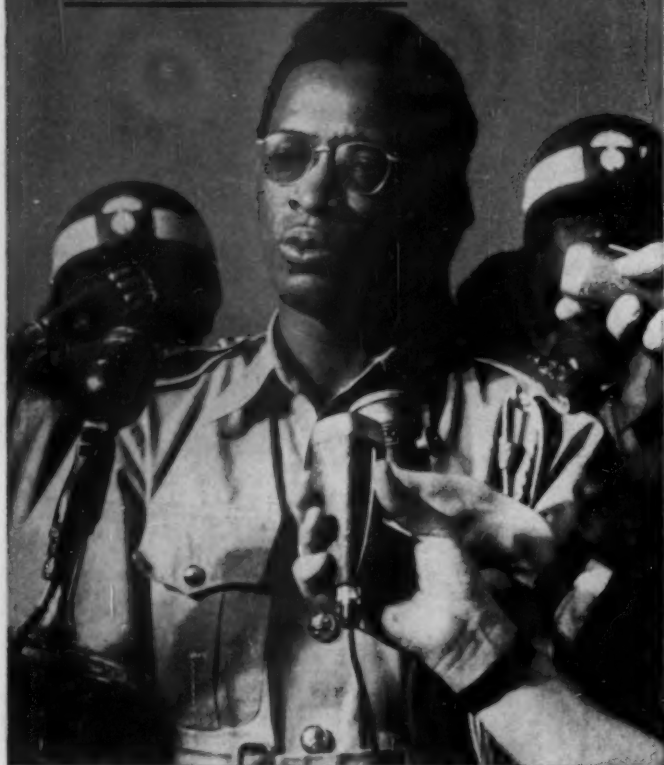
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"STRONG MAN" Col. Joseph Mobutu nominally controls most of the Congo, but plots and disorders make his position shaky.



MOB VIOLENCE has plagued the Congo since its independence.

U.N. Faces Nearly Total Chaos

For more than three stormy months, the United Nations has wrestled with chaos in the Congo. In the young republic today, the U.N. has about 20,000 troops and about 150 civilian specialists. But chaos, intensifying instead of abating, is winning the battle.

At the beginning, the U.N. moved swiftly, efficiently. Ordered to the Congo from all over the world, U.N. officials quickly reopened the port of Matadi, restored control of air traffic, reinstituted weather forecasting, and took other stopgap measures. U.N. troops were sent into the provinces to preserve order.

"Suddenly," a U.N. official in Leopoldville says, "it became apparent that our task was not so modest as just a repair job. We had to build a nation."

• **Trouble on All Fronts**—That's when the U.N.'s troubles started. The Congo had no foundations on which to build. Without a stable government to work with, U.N. officials were frustrated in their attempts to train Congolese. "You would work with a man for a while," says a U.N. specialist, "and then, one day, you'd find another man sitting at his desk. It was necessary to start all over."

Meanwhile, under orders to fire only

in self-defense, U.N. troops were unable to put down violence. Since most Congolese don't understand the restrictions on U.N. military forces, they tend to ridicule rather than respect them.

On top of this, the U.N. has had to fight its own red tape, pressure from the Soviet bloc, and interference from the leftist states of Guinea and Ghana.

• **Little Headway**—Although U.N. officials have worked diligently with Congolese under Premier Lumumba, with "commissioners" appointed by military chief Col. Joseph Mobutu, and even with the Belgians hired by Mobutu to take posts in the Congolese government, they have been able to do little with the Congo's basic problems.

The economy remains a patchwork affair, running on the momentum it built up during colonial days before July 1. Private industry just manages to function. Public services operate in some areas, not in others. Katanga Province, the mineral storehouse of the Congo, is still in secession.

• **Political Vacuum**—The U.N.'s prime problem is that no Congolese leader with authority can be found. Col. Mobutu, the "strong man" who overthrew Premier Lumumba and then expelled the Russians and Czechs, is the closest

thing to a ruler at the moment. But, because of pressure from other African countries, particularly Ghana and Guinea, Secy. Gen. Hammarskjöld has not been free to support Mobutu's unconstitutional rule. Lumumba is under house arrest, waiting for Mobutu to fall. Pres. Kasavubu has withdrawn from active public life. In this situation, anarchy has thrived. And Congolese soldiers have had a field day.

• **Free-For-All**—It is misleading to speak of a Congolese army. There are separate military forces—some under Col. Mobutu, some under local leaders, and others on Premier Lumumba's payroll, which is said to be subsidized by the Soviet Union. Virtually all were originally members of the Force Publique, which mutinied after the Congo's Independence Day. The spirit of mutiny is not altogether gone.

From time to time, soldiers—whose, nobody ever seems to know—swoop into a town in jeeps and trucks to set up barricades, search houses, or harass pedestrians. Sometimes, a small group will storm into a hotel occupied by Europeans—and then quietly depart after looking around the lobby. A commonplace sight is a drunken soldier, his rifle in hand and the safety catch off. The



Here, soldiers hold back tribesmen protesting lack of representation.



SECESSIONIST Premier Moise Tshombe of copper-rich Katanga province won't reunite with rest of Congo except on his own terms.

in Congo

effect on the population is unsettling.

At U.N. headquarters in the Royal apartment building in Leopoldville, Dr. Sture Linner, chief of U.N. civil operations, sums up the problem by pointing out that only in the most favorable climate can the Congo's economic and social structure be restored. And the climate is anything but favorable. "At the moment," he said, "anything we undertake is a difficult operation. We are all waiting and hoping."

• **Economic Bedlam**—Although turmoil has continued to mount in the Congo, the U.N. has made some elementary progress with the Congolese economy by setting up an ersatz central bank called *Le Conseil Monetaire*. This will control foreign exchange reserve, manage the country's credit system, discount government loans, and arrange next year to have a law passed setting up a central bank.

Otherwise, however, the economy remains in almost the same bedlam that plagues Congolese politics—almost, but not quite. When the smoke cleared from the summer's violence, there were many whole pieces left in the economic debris.

Belgium's big *Societe Generale* and Britain's *Unilever* found, for instance,

that their many retail subsidiaries were still open for business, that their warehouses had not been destroyed. Operating mostly on inventory, the stores are still in business. If they were not, the U.N.'s job would be even more complicated.

• **Business as Usual**—A BUSINESS WEEK reporter just back from the Congo found in the capital city of Leopoldville some appearance of prosperity. On the streets there are many cars. Buses operate. Shops are open; shelves are well-stocked. Several restaurants serve excellent food, which Belgian owners manage somehow to import. Telephones work. Along once-swank Rue Albert, sidewalk cafes are busy at night serving beer and highballs to growing crowds of Europeans and some Congolese who have the money to pay.

Beneath the surface, however, there is no prosperity. During the daytime, the atmosphere of gaiety dries up. It is hot, and on the sidewalks are many Congolese who have no jobs. Unemployment is high.

In the countryside, there is not even an illusion of prosperity. Many plantations are closed. Others, in native hands, are running down. Deep in the bush, the Congo suffered perhaps its greatest single economic setback when an invasion by Lumumba's troops forced *Forminiere* to close its diamond mines at Bakwanga, in Kasai Province.

Bakwanga has the free world's largest known deposits of industrial diamonds, with reserves estimated at 300-million karats.

• **Katanga crisis**—Of all the Congo's problems, however, the one that pinches the most is Katanga. And this is the problem that the U.N. has been able to do the least about. Copper-rich Katanga, which once generated 60% of the Congo's income, wants nothing to do with the U.N.—or with Leopoldville, except on Katanga's terms.

Under the rule of Moise Tshombe, Katanga is doing much better than the rest of the Congo. It is not prospering, however. It need the Congo market for its textiles, pastries, tobacco, and other secondary industries. Because these industries have cut back, unemployment is becoming serious in Katanga.

If for no other reason than to silence criticism, the U.N. would like a better grip on Katanga. Many Africans, especially leftists, say the U.N. is protecting Belgian "colonialists" in Katanga. Although Tshombe reluctantly let U.N. forces in to replace Belgian troops, he has not invited U.N. civilians to advise his government. He relies exclusively on Belgians.

• **U.N. Troops**—Katanga's dispute with the U.N. became more acute when Tshombe demanded that Secy. Gen. Hammarskjöld recall the U.N.'s politi-

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ical representative in Elisabethville, Ian Berendsen of New Zealand, and the U.N. military commander in Northern Katanga, Col. Henry Byrnes of Ireland. Tshombe says U.N. troops in the north have looted and behaved "scandalously."

Always an unwelcome presence in Katanga, the U.N. became an object of scorn after pillaging tribesmen at Manono destroyed equipment at the tin mines owned by the Belgian company Geomines. U.N. Irish troops were present but, under their "self-defense" orders, were unable to prevent the pillage. Since then, Katanga's newspapers have run cartoons sardonically depicting U.N. soldiers watching pillage with cameras in hand and rifles on the ground. Residents sarcastically call U.N. troops "our angels."

• **Biggest Mine Running**—One reason Katanga can afford an offhand attitude with the U.N. is that Union Minière du Haut-Katanga, the copper giant of the Congo, is still operating at full speed. Although rioting after independence caused an estimated \$10-million worth of damage in Katanga, Union Minière—and its ability to contribute to the Katanga economy—was barely scratched.

"We cut back production for a few days, after our Europeans left the copper mines," General Manager Gerard Assoinon told BUSINESS WEEK in Elisabethville. "But they came back, and we began operating again. This year we'll produce more copper than last year—about 300,000 metric tons, compared with 280,000 last year."

Union Minière has suffered some setbacks, however. The National Road, which the company used last year to ship half its exports across the Congo, has been severed. "Instead of shipping out of Matadi," Assoinon says, "we ship now from Angola and Mozambique." Another effect of secession is that Union Minière has been cut off from its traditional source of palm oil in Kasai Province. It imports from Angola.

"The U.N. has not been much help in these matters," Assoinon says

wryly. He declined to comment further on the U.N.

Although others are cautious about the future, Union Minière is going ahead with expansion plans. It's opening a new pit at Kambove and an automated copper refinery at Lulu. Other construction is now under way at Kamoto.

• **Acting Independent**—With Union Minière on its side of the line, Katanga feels no compulsion to prepare for the day when it might want to tap the U.N. for funds. In fact, Katanga has offered to contribute to the U.N. operation in the Congo. Starting with no reserves in July, the province expects to build up about \$10-million by yearend. But it is losing lots of foreign exchange, with some \$16-million repatriated in September alone by anxious individuals and companies. Already issuing its own stamps, Katanga expects to put out its own currency soon.

The U.N. does not recognize Katanga as a separate state. Nor, of course, does any Congolese official in Leopoldville. In Katanga, no official argues against eventual reunion with the Congo—on Katanga's terms. Basically, Katanga wants a confederation.

"Before independence, Katanga contributed 40% of the Congo budget," says Economic Affairs Minister Solomon Tshizand. "We got back only 19%. We will not have that situation again. We will control our income for our benefit."

• **Congo's Need**—If Katanga needs the Congo for its market, the Congo needs Katanga even more for its revenues—and U.N. officials are eager to see a reconciliation.

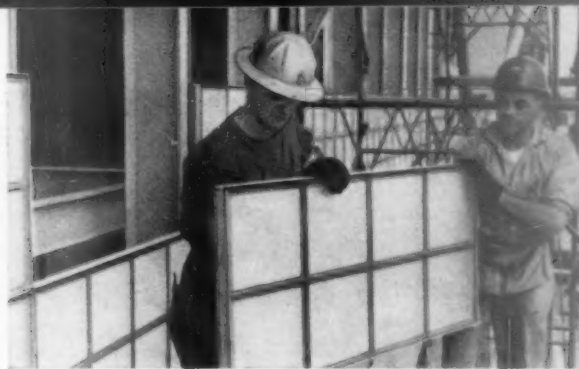
The Congo is in a financial bind. Still held in Brussels by the Banque Centrale du Congo Belge at Ruanda-Urundi, the Congo's reserves have plummeted to almost nothing—about \$32-million. Since any further borrowing is out of the question, the Congo—one of Africa's wealthiest countries in natural resources—must rely to a great extent on charity.

The Congo's reserves began falling, however, long before independence. In 1956, they stood at a high of \$338-million. Hit by the 1957 recession, as were other copper-producing countries, the Congo watched its reserves drop by more than \$100-million. Reserves gained slightly in 1958, but foreign exchange began leaving the country after racial disturbances in 1959. At the beginning of this year, reserves stood at just \$87-million—equivalent to about three months of imports.

For the U.N., this is a serious problem. At best, supporting the Congo is an expensive operation. With the national economy—excluding Katanga—near bankruptcy, the Congo promises to be even more costly. **END**



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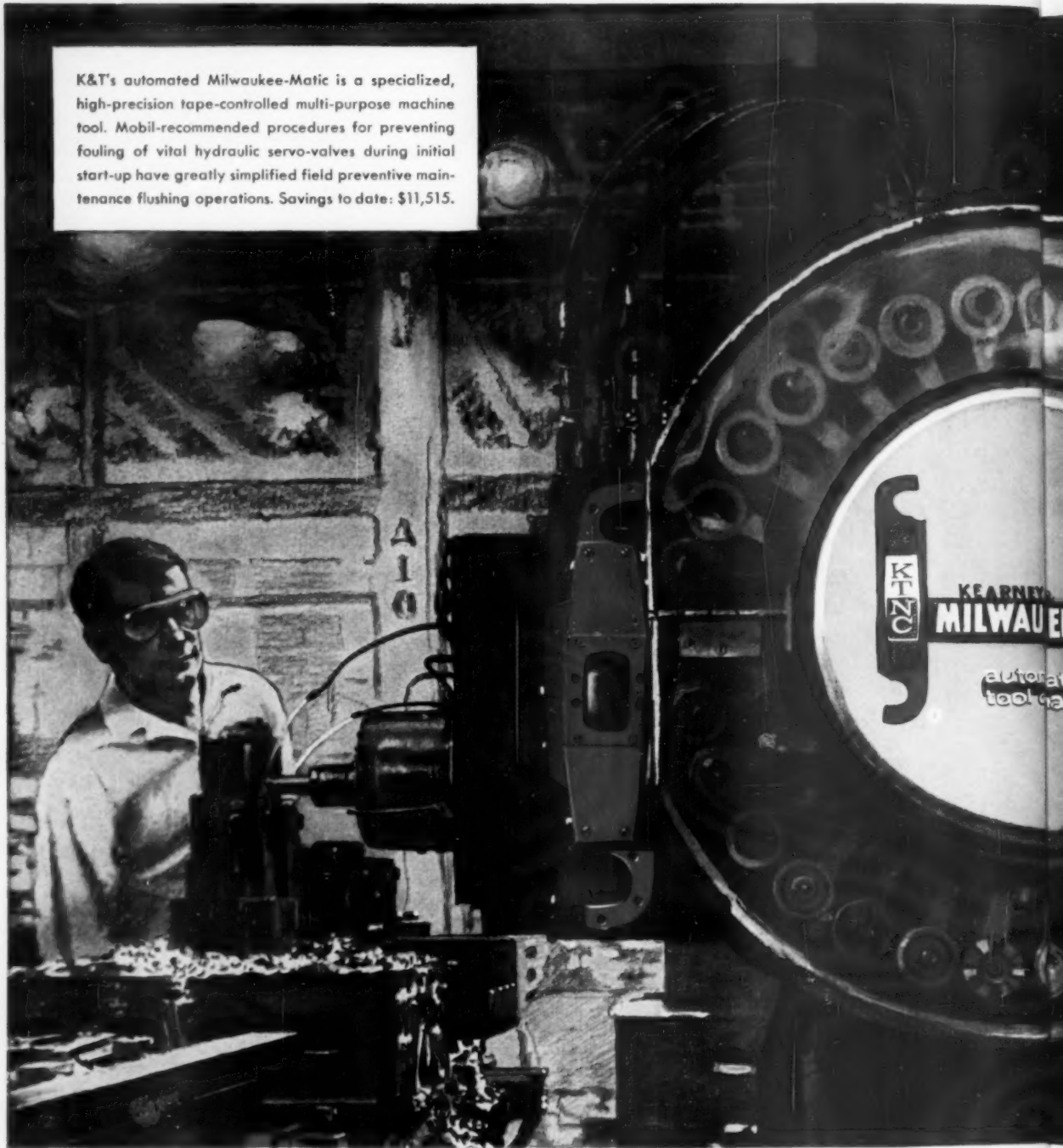
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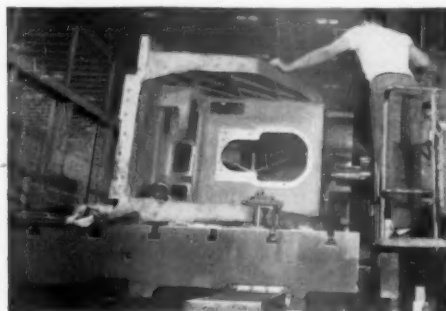
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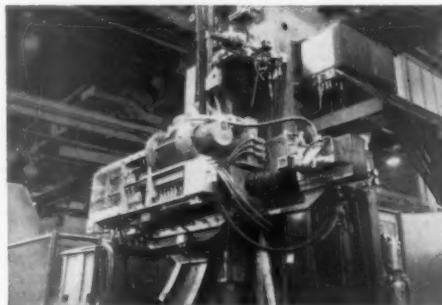
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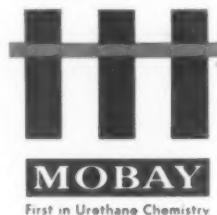


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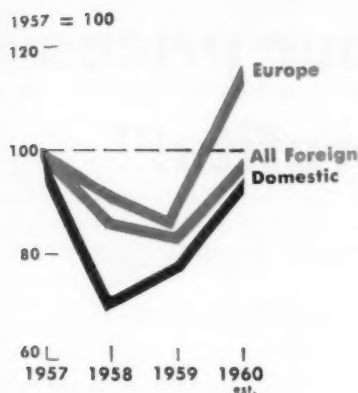


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Mobay Chemical Company, Pittsburgh 5, Pa.

F-12

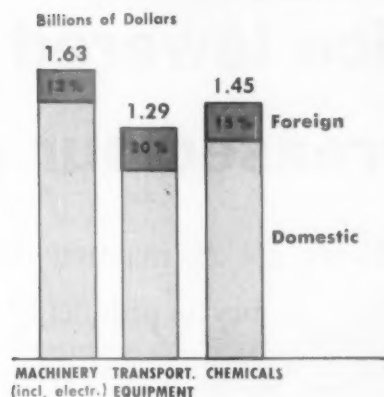
First in Urethane Chemistry

U.S. Manufacturers* Push Plant Investment Abroad



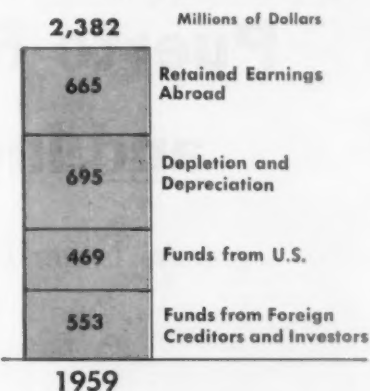
*excludes petroleum, coal, and primary iron and steel products

Here's the Overseas Share of Total Plant Investment by Three Industries in 1959...



Data: Dept. of Commerce

... And How U.S. Manufacturers Financed 1959 Additions to Their Total Overseas Assets



©BUSINESS WEEK

New Look at U.S. Plants Abroad

In the Survey of Current Business for October, the Commerce Dept. has added another chapter to the story it has been unfolding on U.S. corporate investment abroad. Last month's chapter gave the first official figures on the worldwide sales being made from the overseas operations of American companies (BW—Oct. 8 '60, p158).

This month, Commerce stresses the rapid growth of capital outlays abroad by U.S. manufacturing companies, especially in Western Europe. It also discloses officially for the first time where these companies, and U.S. petroleum and mining companies as well, get the financing to expand their fixed and other assets abroad. The striking thing here is the relatively small role of funds supplied by parent companies and other sources in the U. S. (chart).

I. Overseas Capital Spending

According to Commerce, capital spending on overseas plant and equipment by U.S. manufacturers will be \$1.3-billion in 1960, up \$100-million from 1958 and 1959. This puts manufacturing investment almost in a class with petroleum, whose total annual outlays now are running at \$1.6-billion. Some 44% of the manufacturing investment this year will be in Western Europe, a considerably higher percentage than ever before. About \$300-million is going to Britain and \$270-million to the European Economic Community, with two-thirds of the latter figure accounted for by West Germany.

• **Rise Expected**—Moreover, capital

outlays in manufacturing are due to go up again in 1961, with Europe once more the favored spot. This shows up in the recent investment survey by the McGraw-Hill Economics Dept., which indicates that Europe's share will be 50% next year. If the investment intentions of companies in this survey pan out, you can expect the total manufacturing investment in the EEC countries to rise over that in Britain.

The Commerce Dept. figures also show that overseas plant and equipment outlays by several U.S. manufacturing industries already have become a sizable part of their over-all capital spending. If you exclude primary iron and steel products, the average for manufacturing is 14%; it is 20% for transportation equipment (mainly autos), and as high as 27% for rubber products.

In some respects, the most interesting new data provided by Commerce is on how U.S. companies finance their expansion abroad in both fixed and other assets. In the case of manufacturing, funds from the U.S. totaled \$469-million in 1959 and accounted for only 20% of the addition to total resources last year. Each of the three other financial sources—depletion and depreciation, retained earnings abroad, and funds from foreign creditors and investors—contributed a larger share than funds from the U.S.

II. The Profits Flow Back

Out of the \$1,275-million in overseas net income for 1959, manufacturing companies retained abroad \$665-million

for investment, but still had \$610-million available for remittance to the U.S.—or considerably more than the total funds they took directly from the U.S. Almost the same picture emerges if you separate manufacturing investment in Western Europe from the worldwide total.

• **A Future Plus**—The new figures for “funds from the U.S.” jibe with earlier Commerce statistics on the capital outflow for direct investment. And this is an item in the U.S. balance of payments which is often regarded as a contributing factor to our over-all payments deficit. If you consider all the new figures, however, it becomes clear that the return flow of earnings even now offsets the capital outflow. Meanwhile, of course, U.S. companies are building up a very large potential of dividends and profits that some day will come back to the U.S. and count as a plus in the balance of payments.

Or a over-all basis, according to Commerce, total assets employed by U.S. companies abroad reached nearly \$42-billion as early as 1957. Out of this total, \$24-billion was financed by U.S. parent companies and other U.S. residents, and \$18-billion by local investors abroad. What's more, says Commerce, “the U.S. ownership was mainly in the form of equity interests in stock, surplus, and branch accounts, while foreign investors financed most of the debt of the enterprises.” It's this fact that explains why, over the long run, the profits from U.S. “direct-investment enterprises” abroad will come mainly to this country. **END**

"A tax-free plant in Puerto Rico lowered our prices and increased our profits!"

—says Lester E. Perry, a U.S. manufacturer who reports that his new Puerto Rican factory is producing "astonishing results"

LESTER E. PERRY is president of the Perrygraf Corporation. This family-held company is the leading manufacturer of disc and slide charts used for sales tools.

Two years ago, Perrygraf's plants in Los Angeles and Chicago could no



How a plant in Puerto Rico builds profits for a family-owned business

by Lester E. Perry

Family-owned corporations wanting to keep their stock in the family, often wonder why they should put on pressure to grow.

If \$100,000 can be added to net profit for the year, maybe \$25,000 will wind up in the bank. The rest will be in expanded plant, inventory, and accounts receivable.

At tax time, the \$25,000 must come out of the bank, \$27,000 more must be borrowed, and all of it given to the revenue department. Every year a bigger business with a bigger mortgage, and not a dollar of your own money to spend.

All this is changed in Puerto Rico, thanks to the Commonwealth's tax holiday. The \$25,000 would stay in the bank, and no borrowing would be necessary.

longer keep up with orders. So President Perry set up the Lester Corporation in Puerto Rico as a Perrygraf supplier.

Larger profits, lower prices

Here is what Mr. Perry has to say about his Puerto Rican Company:

"A Puerto Rican operation makes possible larger profits, lower prices—or both, as in our case. A 30 per cent payroll in the States can be 20 per cent in Puerto Rico. We pass production savings on to our customers with some astonishing results."

"A recent 6,000,000-run of an advertising premium was taken profitably at \$120,000, or \$60,000 below the nearest competing bid. We delivered a million slide charts a week.

"Thanks to our Puerto Rican company, Perrygraf Corporation's sales have grown 40 per cent during the last two years.

"If there is a catch to manufacturing in Puerto Rico, we haven't found it.

"Our experience in hiring Puerto Rican workers has been excellent. We can get better employees than in the States because there are more to choose from."

"Most of them are high school graduates, and speak some English. They are young married people, combining youthful vitality with steadiness of fine character.

"They learn fast, and are desperately anxious to make our operation a success."

Not a single complaint

"In two years, we have not had a single complaint from customers about products made in San Juan.

"Shipping has been no problem. We

buy our shipping materials locally for considerably less than we pay on the mainland. And our goods actually get to New York faster from San Juan than from Chicago.

"Details involving factory space, shipping, and supplies were all admirably planned by Puerto Rico's Economic Development Administration."

Looking for a plant site?

Lester Perry's enthusiasm is typical of what you find all over Puerto Rico these days. No fewer than six hundred U.S. manufacturers have opened new plants in this sunny Commonwealth in the last ten years.

If you are looking for a plant site, why not fly down and talk with some of these prospering manufacturers? They will tell you all about Puerto Rico's remarkable ten-year tax holiday, and many other advantages.

Go any time. You don't need a passport or foreign currency—Puerto Rico is part of the U.S. political and economic systems.

FOR COMPLETE INFORMATION, write or telephone the offices of any of the regional consultants of the Commonwealth of Puerto Rico, Economic Development Administration: in NEW YORK—666 Fifth Ave. (Circle 5-1200); in BOSTON—607 Boylston St. (Congress 2-1310); in CHICAGO—79 West Monroe St. (ANdover 3-4887-8); in LOS ANGELES—5525 Wilshire Blvd. (WEbster 1-1225); in PHILADELPHIA—Transportation Building, 6 Penn Center (LOcust 8-2665); in MIAMI—Dupont Plaza Center, Suite 709-12 (FRanklin 7-2618). In SAN JUAN, call Gabriel Rivera Hernandez at San Juan 3-0040.

In Business Abroad

• • •

Venezuela Approves Aluminum Plant To Be Built by Reynolds Metals

The Venezuelan government has given its go-ahead to Reynolds Metals Co. to build a \$13.5-million aluminum reduction plant. This approval indicates that Pres. Romulo Betancourt is opening the way for foreign investment despite opposition that includes members of his government's coalition.

The project, which calls for a 25,000-ton annual capacity plant, will be a mixed-capital venture, in accord with Venezuela's policy. The project is part of Betancourt's plan for revitalizing the Venezuelan economy (BW—May 7'60, p114). Reynolds and the Venezuelan government are expected to put up 50% each.

Leftists had picked the project as a focus of nationalist agitation against foreign capital and were able to delay approval for nearly a year. This approval involves no commitment by the government to grant bauxite concessions to Reynolds if commercial deposits are found in the Guayana region.

• • •

Two-Way Increase in Tourism Between U.S., Russia Forecast

Despite the increase in cold war tensions, Russia expects more U.S. tourists next year than it received this year. And it expects to send more Soviet travelers here.

Sergei S. Nikitin, vice-president of the official Russian tourist agency, was in Washington this week to discuss tourism. He predicts that 20,000 Americans will visit Russia in 1961, compared with 15,000 this year. In 1959, 200 Russians (not counting Premier Khrushchev) toured the U.S. This year, 600 will have visited here, and next year, according to Nikitin, more will come. He didn't say how many.

• • •

Mergers of British Companies Planned In Real Estate, Radio-Electronics Fields

In London this week, company officials revealed merger proposals for these companies:

- Pye Ltd. and E. K. Cole Ltd., (Ekco), two top television, radio and electronics companies.

- City & Central Investments, headed by Charles Clore, and City Centre Properties, led by Jack Cotton. Both are leading real estate development firms.

The Pye-Ekco tie-up is the latest in a series of mergers in the British radio and electronics industry. The proposed merger will take place through a joint holding company that will be worth about \$70-million in assets. Company spokesmen say the merger will combine research and export activities. It will also give the com-

panies a better competitive position in Britain's TV market, which is nearing saturation.

The planned merger between the two real estate firms arose directly out of activities in the U.S. Both have moved into New York City real estate recently—Clore bidding for a 99-year lease at 44 Wall Street and Cotton taking a financial share of Grand Central City. Both firms, whose combined value is about \$182-million, have plans for further developments abroad.

• • •



Jeep-Borne "Guardian Angels" Prowl Mexican Roads to Rescue Tourists

The Mexican government's Tourism Dept. has put into service a fleet of "Tourist's Guardian Angels" to assist the hundreds of thousands of U.S. visitors that pour in by car from Texas and California each year.

The Guardian Angels are crews of Jeeps (picture) equipped with an array of mechanical, medical, and morale-boosting equipment. The Jeep drivers speak English, are trained mechanics, are qualified in first aid, and have a tested knowledge of Mexico's history, tourist sights, and accommodations in their regions.

Ten of these crews are now operating and 25 more will be added before the end of this year. Their first reports indicate that running out of gas and engine trouble are high on the list of tourist troubles. Another problem: Many people are just plain lost.

• • •

Business Abroad Briefs

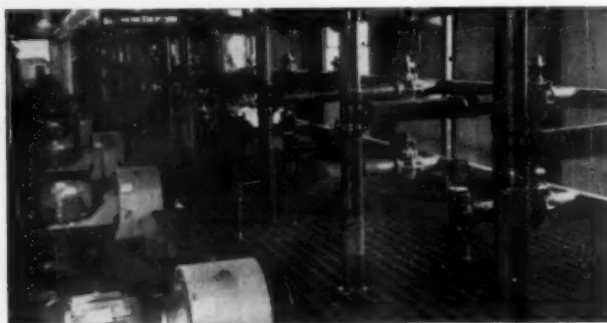
In the Council of Europe, the British government has started discussions with other industrial countries on the possibility of an international patent agreement. The Common Market nations which don't include Britain, are known to be determined to set up a common patent system. The British would like to see it extended to the rest of Europe and the U.S.

India is taking a page from the Netherlands' book on pumping water. Garlick & Co. of Bombay has bid on a government project to set up 30,000 windmills to pump water for irrigation. The project's cost is estimated at \$16-million. It calls for installing pumps capable of moving 12,000 gal. a day. India is also experimenting with a West German windmill to generate electricity.

Industry in many



Low-cost sprinkling system: Western Electric utilized more than 20,000 feet of Republic SRK at their new Oklahoma City telephone accessories plant. 30-acre plot is watered automatically . . . economically . . . in just 16 hours. Plastic pipe cut time and cost of installation.



Handling sodium sulphate: since switching to Republic SRK, an important chemical manufacturer gets better than three times the life than with conventional pipe. 80,000 feet of SRK has been used to pipe highly corrosive sodium sulphate solution in temperatures ranging from 12 to 70 degrees in pressures to 100 psi.

Plumbing and specialized piping: a major Ohio research center is equipped with SRK waste lines, vents, distilled water lines, vacuum lines, and low pressure air lines. Records show that the entire system was installed twice as fast . . . for less than half the money . . . than would have been possible with conventional pipe.



Salt water disposal system: Midwest Oil Corporation uses Republic SRK to dispose of approximately 700 barrels of salt water per day. In lines once replaced every six to eight months, SRK remains in service indefinitely. There is no corrosion . . . no evidence of chemical action in general . . . and very little damage from abrasion.



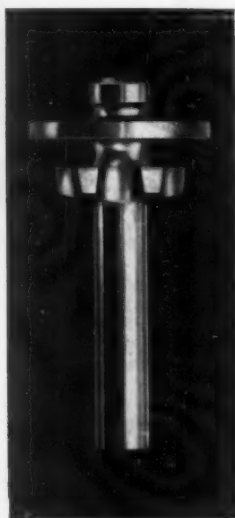
uses Republic Plastic Pipe ways, for many reasons

Take a good plastic pipe. Republic's semi-rigid SRK® is immune to oxidation . . . immune to electrolytic action . . . immune to most industrial chemicals including acids, alkalies, and salt solutions.

Initial price is competitive with ordinary pipe. Speed of installation—*many times faster than ordinary pipe*. You'll find SRK on the job in and around chemical plants, paper mills, textile and food processing plants, distilleries, metalworking plants, mines, sewage treatment plants, pickling

and plating plants, and in the vast petroleum and natural gas industries.

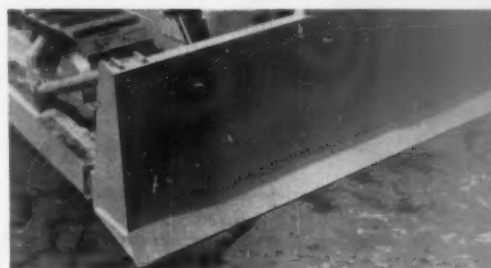
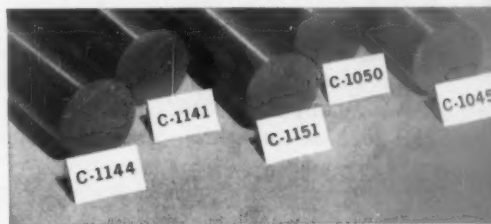
Made from virgin A.B.S. resins, Republic SRK is produced in half-inch through eight-inch diameters in a wide range of pressure ratings. Pipe is joined with solvent-welded, leakproof plastic fittings requiring only a handsaw for cutting and a brush to apply the welding solution. SRK can be used in combination with other piping. Check your Republic distributor or mail the coupon for additional information.



MINIMUM YIELD STRENGTH 100,000 PSI: Republic's CENTURY SERIES of high strength, stress-relieved, cold finished steel bars lets you choose from five grades . . . five price levels . . . five degrees of machinability. Better strength-to-toughness ratios are frequently obtained by selecting one of the lower sulphur, less expensive grades. Return coupon for information.

MACHINING ONE-PIECE VALVE STEMS: National Acme Company, Cleveland, Ohio, uses Republic ENDURO® Type 303 Stainless Steel for Hyseal Valve Stems used in new American-Standard single-lever mixing faucets. Valve stems are completed in a single setup. Ten operations including a multiple end drilling of six holes on a 15° angle are performed in 12 seconds. For information on the more than 40 standard types of stainless steel available from Republic, mail the coupon.

SPECIAL SECTIONS: Grader and bulldozer blades are produced from Republic Hot Rolled Special Sections by Bucyrus Blades, Inc., Bucyrus, Ohio. Uniform high impact strength and wear resistance—proved on the job—are the result of rigidly controlled chemistries and production techniques. Our technical people will be happy to show you how Republic's wide range of special section sizes and contours can be adapted to your particular product requirement.



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Company _____

Address _____

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MARKETING

How to Test Your Trademark

Research shows the type of trademark you choose says a lot about what kind of company it represents. To see how your trademark measures up in the public eye:

First, inspect the trademark types on these pages — they have been grouped according to outstanding common characteristics.

Then decide which types your trademark resembles.

These trademarks have been classified carefully. Psychologists of Opinion Research Corp. grouped them in terms of their single dominant or outstanding characteristics. Practically all trademarks can be classified as having one or more of these characteristics. Take Elsie, the familiar Borden cow. She's predominantly an Animated symbol. But she also has Pictorial elements, is a Feminine symbol, is a Complex symbol, and is depicted by Curved Lines. So Elsie gives a distinct idea about Borden, even to people who have not seen her before.

In the box below, check what characteristics best describe your trademark.

Then turn to pages 108-109 to see what people think of these types.

1	vs.
2	vs.
3	vs.
4	vs.
5	vs.
6	vs.
7	vs.
8	vs.
9	vs.
10	vs.

1	MODERN OR ABSTRACT	VS.	PICTORIAL OR
2	TRADITIONAL OR HERALDIC	VS.	MODERN OR
3	MASCULINE SYMBOLS	VS.	FEMININE
4	BOLD LINES	VS.	DELICATE
5	ANIMATED FIGURES	VS.	INANIMATE

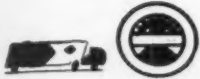













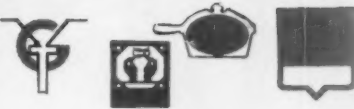
What Trademark Types

McKesson & Robbins, Inc. is about to introduce a new trademark for its McKesson Laboratories division, a process that will involve a million dollars and take several years to complete. Abbott Laboratories, General Foods, and Westinghouse Electric have similarly impressive trademark programs in progress. Their efforts indicate that face-lifting a corporate symbol can be both time-consuming and costly, running as high as \$15-million to \$20-million in some cases.

How do you pick a trademark that

will be worth the investment of all that time and money—one that will give people the idea you want them to have of your company? The Opinion Research Corp. method illustrated above and on pages 108-9 is an attempt to provide an objective yardstick for judging how well a trademark does its job. With the aid of the illustrations BUSINESS WEEK readers can get a line on what their trademarks say to the public.

• **Testing the Principles**—As trademark alteration has grown to the status of a major operation, a lot has been written

REPRESENTATIONAL 	6 CURVED LINES VS. STRAIGHT LINES 	
ABSTRACT 	7 SUGGESTED MOTION VS. STATIC OR SYMMETRICAL 	
SYMBOLS 	8 RIGHTWARD MOTION VS. LEFTWARD MOTION 	
LINES 	9 SIMPLE VS. COMPLEX 	
THINGS 	10 BRIGHT COLORS VS. MUTED TONES 	

Tell Consumers About a Company

about the principles involved. But management has had little objective proof of these principles. The research has been done mostly by design firms, and most managers have hesitated to question the designers' judgments.

The trademark study by the Princeton research company, Opinion Research Corp., offers the esthetically hesitant executive some disinterested standards on which to base judgments on trademarks. The results, incidentally, tend to corroborate the designers.

• **Ground Rules**—ORC decided to test

how consumers react to various types of trademarks. It sought to select trademarks representing substantial companies, but to rule out those—such as Borden's Elsie the Cow and General Electric's monogram—that have become indelibly associated with their companies in the public's mind. ORC felt its test panels of consumers would be unable to judge such marks objectively on the basis of effectiveness alone.

The next step was to group the test trademarks by types, according to their dominant characteristics, as illustrated

above. Some marks, ORC found, could best be classified according to whether they were pictorial or abstract, others by whether they were bright or muted, and so on.

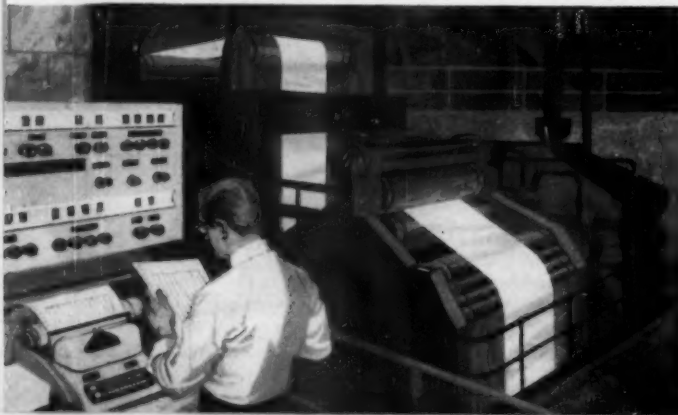
To classify a trademark in any group, all of ORC's psychologists had to agree on what was its most striking characteristic. To put Continental Can's concentric "C" symbol in the "simple" category, for example, they all had to agree that simplicity was its outstanding characteristic.

• **Scoring the Trademarks**—Then ORC



What a memory! How do you check quality and record it on coils of tinplate up to three miles long? New Cutler-Hammer sensing, memory device does it. It's the first of its kind anywhere.

What a view! Here's a radar picture of all runways at Idlewild Airport. It's so clear you could identify a horse two miles away! Another Cutler-Hammer development.





What's new in control for automation?

An automatic warehouse that tells car bodies when to stop and go

Cutler-Hammer system directs car bodies to and from storage area for a major automobile manufacturer.

The need was for a buffer storage area for car bodies between the assembly plant and the body building plant.

Before this storage area idea was conceived, car bodies went from the line of the body plant right to the line of the assembly plant. If one line had to shut down, the other did, too.

Cutler-Hammer systems control men developed the electrical control that sorts the car bodies coming from the body plant to one of eleven storage conveyors. Also, any body style can be taken off the conveyor and sent to the assembly line.

And, now? No shutdowns in one plant if the other is shut down temporarily. Any body style needed can be put on the assembly line. Couldn't be done before. So now, parts shortages affecting one body style don't affect production.

The conveyor system installed only last year is paying big dividends in reduced assembly line costs. As a result, several similar installations have been ordered.

The importance of an electrical control man. A Cutler-Hammer control man can bring wide experience to your automation planning table. He's handled many different products. He's worked with many different systems. With the proper control recommendations, many thousands of dollars can be saved.

The big change at Cutler-Hammer.

You can see a change at Cutler-Hammer. We've prepared for the expected growth in the sixties with new, better products, new plant capacities, new engineering talent. If you're planning ahead, we'd like to talk to you. We could save you time and money in your automation planning. Contact the Cutler-Hammer sales office nearest you to see how.

Automation is more efficient when the control expert is called in early.

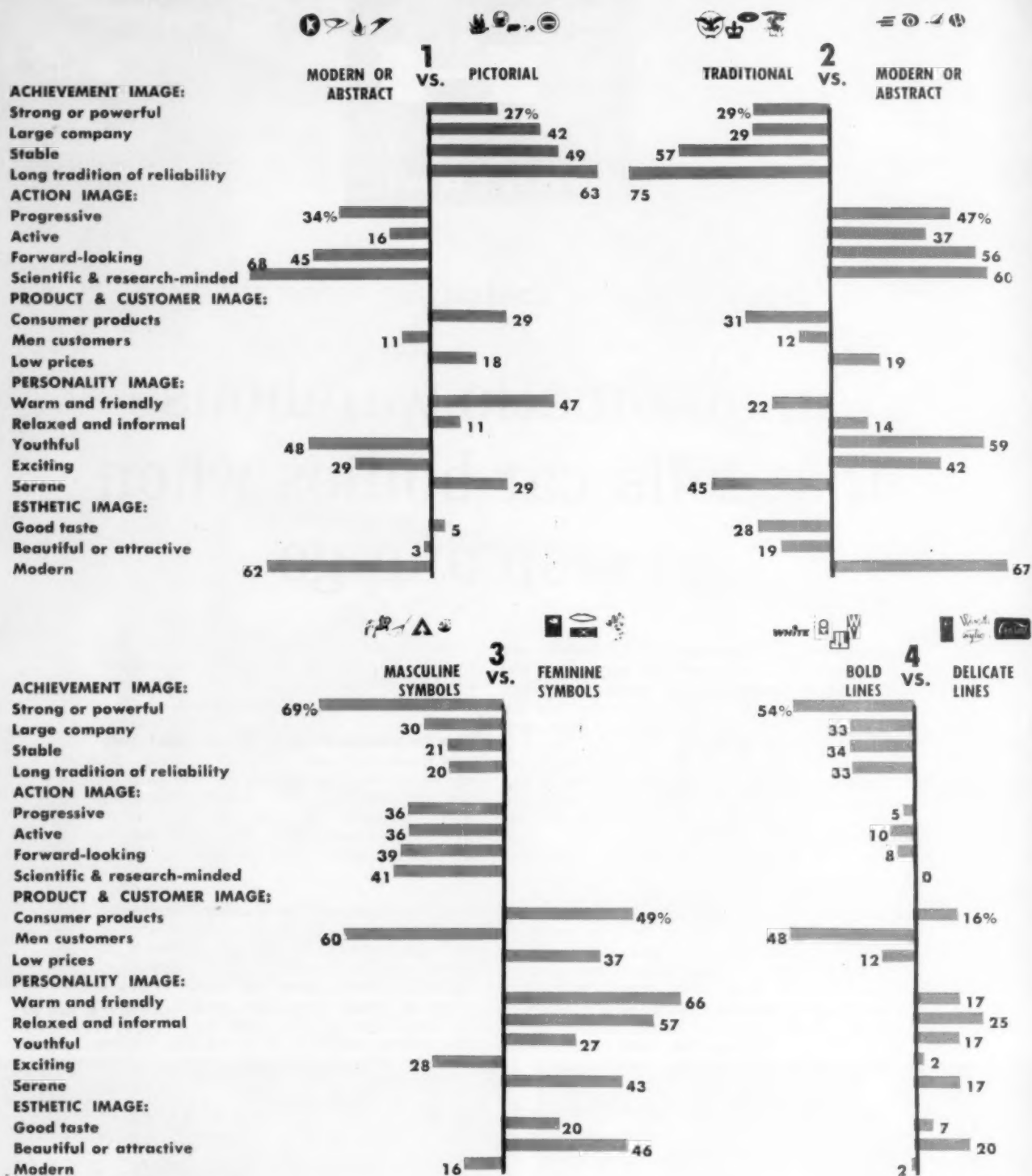
WHAT'S NEW? ASK...

CUTLER-HAMMER

Cutler-Hammer Inc., Milwaukee, Wisconsin • Division: Airborne Instruments Laboratory • Subsidiary: Cutler-Hammer International, C. A. Associates: Canadian Cutler-Hammer, Ltd.; Cutler-Hammer Mexicana, S. A.



Here's What the Public Sees in Various



(Continued)

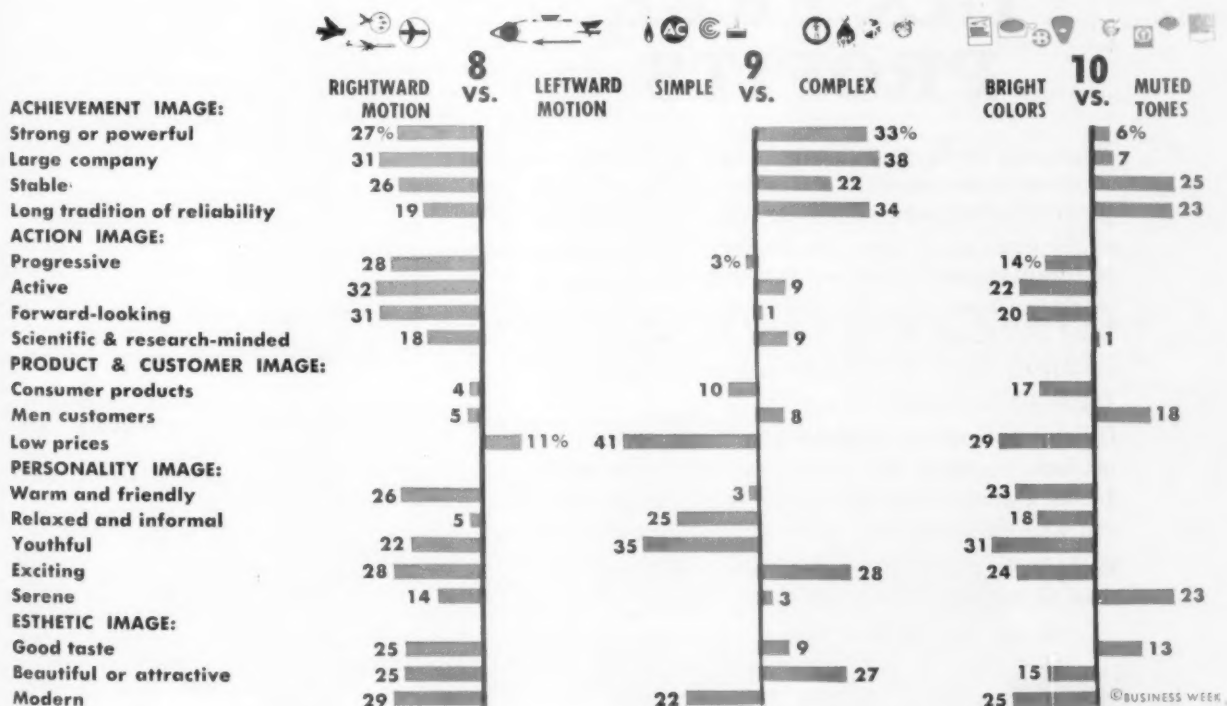
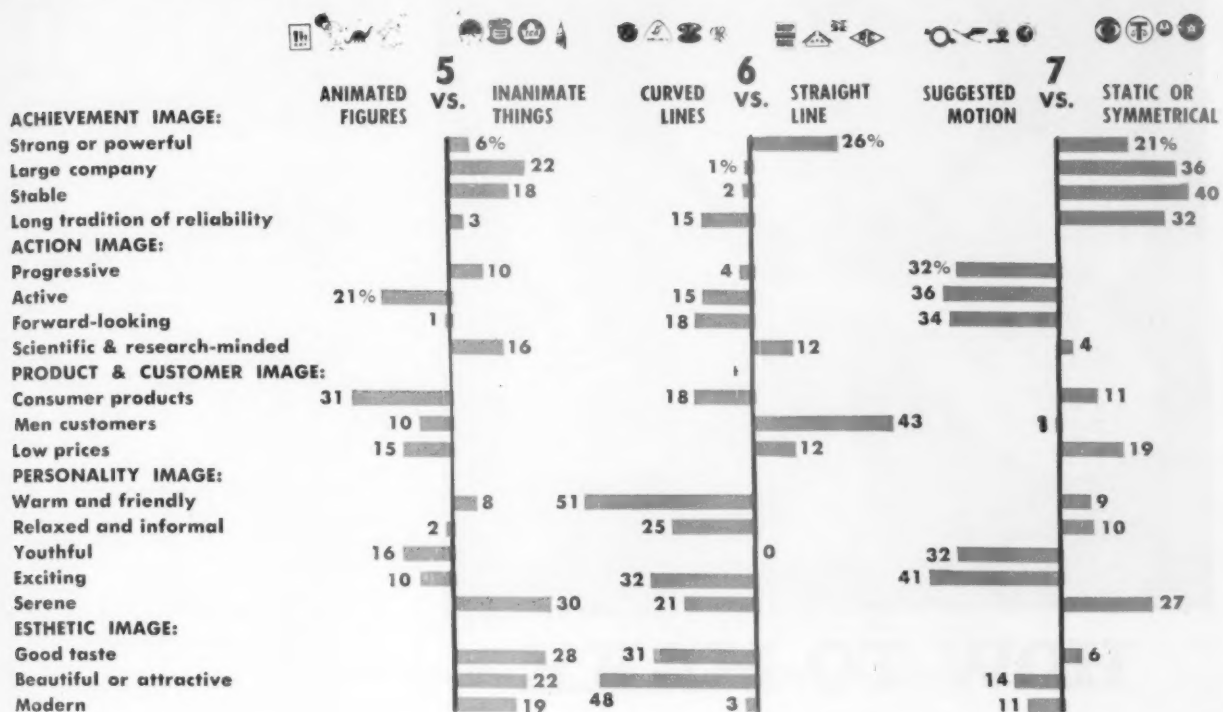
let loose its carefully selected sample of consumers on its groups of trademarks. They were told to decide which type of symbol better expressed the various company qualities listed on the

scoreboard above. This involved many separate comparisons; and for each group, a different sample of about 200 people was used. The percentage scores in the table were arrived at by aver-

aging results of the comparisons.

In each comparison, the panel decided which of two different trademarks better exemplified a particular company quality. Take, for example, a simple vs.

Types of Trademark

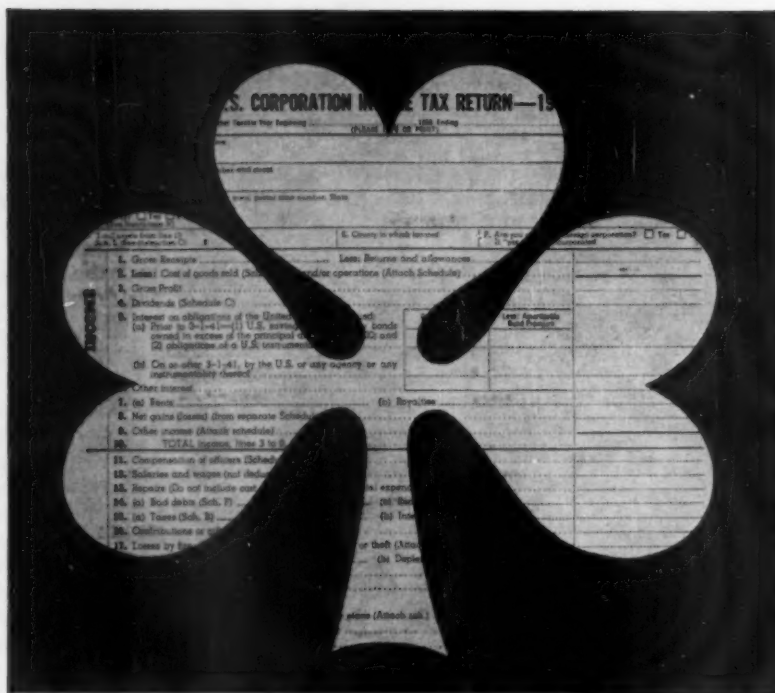


complex trademark to suggest a youthful company. The panel would pit a trademark in the "simple" group on page 105 against one in the "complex" group—perhaps Continental Can's con-

centric C's against Sherwin-Williams' paint can covering the world. Then it might compare AC Spark Plug's "simple" AC mark with Eastman Kodak's "complex" seal (fourth in that group)—

and so on until all simple vs. complex marks were covered.

The scoreboard shows the result—35% in favor of simple trademarks as more "youthful" than complex trade-



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When you locate your overseas plant in Ireland you receive *ten years exemption** from income tax on export profits plus five years reduced taxation. This is only *one* of the many advantages you receive when you manufacture in Ireland for sale to rich, fast-growing European markets. Outright, non-repayable *cash grants* help you build your factory (up to 100% of cost), equip it with machinery (up to 50% of cost) and train your workers (up to 100% of cost)!

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marks. That result was arrived at by adding up the results of all the simple vs. complex comparisons on the question of youthfulness, and averaging them out; the 35% means that in all these comparisons, an average 35% more people in the test panel thought simple trademarks suggested a youthful company than thought complex marks did.

The same procedure was followed all down the list of qualities and all through the various classifications of trademarks. The panel that rated the "youthful" quality of Continental Can's C against Sherwin-Williams' paint can symbol would go on to choose which of the two better suggested a warm, friendly company, which better suggested stability, and so on through the entire list of qualities. Another panel would rate the "pictorial" trademarks against the "abstract" ones for the same qualities.

• **Surprising and Expected**—A lot of ORC's findings, after totaling up the long list of scores, serve to confirm some long-standing beliefs about trademarks. But a lot of surprising findings turned up, too—the relatively high score for bright colors as suggesting low prices, for example.

Perhaps most interesting among the many conclusions was the almost uniform preference for symbols pointing to the right as compared to symbols pointing to the left. ORC thinks this may be related to the fact that American and European writing goes from left to right. It also points to the association in Western languages of right with correct, and left with gauche or sinister.

• **Wrong Ideas**—As a side test, ORC asked its test groups to say what industry or product field the trademarks stood for. This check caught a lot of corporate symbols giving the wrong idea about their companies. One paper company mark made people think it was in the moving and storage field. One railroad's mark meant the lumber business.

ORC, though unwilling to finger any particular mark as inappropriate, suggests that many could stand considerable face-lifting. But its work with individual companies indicates that tampering with a company's trademark can be like tinkering with a family's coat of arms; it arouses a lot of emotional resentment. Said one executive, defending his company's trademark against all attempts at change, "It's like a badge over my heart."

ORC is experiencing some of these mixed emotions itself. It put its own circular symbol (the stylized ORC shown with the "curved line" trademarks on page 105) into the test hopper. Embarrassingly enough, it turned out that the test panel found the symbol quite inappropriate. **END**

**From talc-like
pulverants . . . to granulars . . .**

**HAULING VERSATILITY IS THIS
BUTLER "P-D" TRAILER'S LONG SUIT**

This wonderfully simple pneumatic hauler will unload a vast range of dry flowables with unusual efficiency. It's called Butler "P-D" (for pressure differential) and it absolutely thrives on hard-to-handle loads. You get fast, positive, 100 per cent clean-out every time. No special receiving equipment is needed . . . for either horizontal or vertical delivery.

Moreover, your shipments deliver worry-free in a Butler Pneumatic Trailer. The cylindrical shape saves weight, and it's the sturdiest and safest design yet developed for a pressure vessel.

Careful automatic welding eliminates stress. Code and ICC safety factors are incorporated. And with no interior belts or liners to wear out, costly downtime is minimized.

Cement . . . plastic pellets . . . fertilizer . . . fly-ash . . . whatever you handle . . . it will pay you dividends to go bulk with Butler. We will be glad to advise you if your product can be readily delivered in a "P-D" trailer. And Butler also provides a full line of high-quality steel and aluminum transports for liquid hauling needs. Write direct to the Butler office nearest you for details.



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These occur in epidemic form

Which Type of Flu Will Strike This Winter?

TYPE A	TYPE B	TYPE C	TYPE D	TYPE E
Known in three forms — A-prime, swine-A, and Asian	Milder, rarely a killer	A cold-like illness	Dangerous	Dangerous, but rare
Most serious	Less prone to mutate	First seen in U.S., 1944-45	Never seen in epidemic form	Also called para-influenza-2
Most likely to mutate	Epidemics every four or five years; usually hits children	"A virus in search of a disease"	Also called para-influenza 1	First seen in Cincinnati
Occurs in epidemic form every two or three years	Responsive to vaccination		First seen in Japan, 1952	Croup-like symptoms
Last epidemic, 1957-58	Extremely contagious			
	Only big epidemic in U.S. in 1945			

Medical Authorities Can't Predict, But Are . . .

Trying to Ward Off the Flu

Last week, the Health Department of the City of New York warned the 18,000 doctors practicing within its jurisdiction, that all "high risk" patients should be vaccinated immediately against influenza.

The warning came in the wake of a similar alert sounded by the U.S. Public Health Service. Since October, 1957, three flu epidemics in the U.S. have been accompanied by an abnormal death rate.

The 1957 epidemic or pandemic, which lasted from October to December, killed an estimated 78,000 Americans. A second wave started in January, 1958, and ran for three months. The third, picking off victims who escaped in 1957-58, chalked up a death rate of more than 1,000 a week at its height last February.

• **Unpredictable**—Medical experts can't say when or where the next flu epidemic will strike. The spread of the viruses that cause the various types of the disease (table above) is unpredictable as well as mysterious.

Ordinarily, an epidemic breaks out with little or no warning, however. Medical authorities can sometimes spot a large group of coughing, sniffing victims before a pandemic hits. But at that point, there is little that individual doctors can do to prevent the airborne

transmission of a flu virus to vulnerable sectors of the populace.

In about three weeks, the epidemic generally reaches its peak. As much as 20% to 40% of an entire population can be infected, depending on how much natural immunity people have to the particular virus form. After it has swept around the world in this fashion, flu usually dies away just as quickly as it broke out. A flu pandemic seems to occur every second or third year.

• **Gaps in Knowledge**—There is still much that scientists do not know about the tiny, round, furry viruses that cause the five distinct types of influenza. They haven't discovered, for example, what makes a virus change or mutate—thwarting any long-lasting vaccination protection. They still haven't determined what causes a particular type to increase in virulence as it sweeps from population to population. And they don't know yet where to look for new drugs to combat the spread of flu viruses.

• **Five Virus Types**—In recent years, however, researchers have made significant progress in a number of other directions. It wasn't very many years ago that all flu viruses appeared to be alike under the microscope. Today, with use of the electron microscope, scientists have been able to distinguish five main strains of flu viruses.

Some (Type A and Type B) include sub-types that tend to spread fast and cause epidemics after a relatively short incubation period (two or three days). Others (Type D and Type E) are far more dangerous but usually appear in small local outbreaks.

Type B strikes children especially hard; Type A, on the other hand, is much quicker to mutate and causes relatively more serious after-effects. Type B is likely to strike hardest in March; Type A (including the much-heralded Asian flu) usually starts its earth-circling course in late fall or early winter.

• **Identification Possible**—Thanks to developments of recent years, it is no real trick today to identify which virus is involved in any outbreak of flu.

Flu viruses are exceedingly small—the head of a pin could easily hold 25-million of them. But scientists have learned how to grow cultures in fertile eggs from viruses obtained from the throat washings of suspected victims. Forty-eight hours later, tests run on those eggs clearly indicate whether or not an influenza virus is present. Lab animal tests are then used to identify the particular type of flu virus.

• **Counter-Measures**—The U.S. Public Health Service, when alerted to the presence of a new sub-type of virus, is set up to spring into action quickly. If

the virus is one for which a vaccine is available and the first outbreak occurs in some fairly remote part of the world, there may still be time to start inoculation to protect highly susceptible population groups.

There is now available a polyvalent vaccine that will prevent known varieties of Types A and B flu virus infections in 65% to 75% of the population for nearly a year. However, this vaccine must be given in two inoculations, four to six weeks apart. And it takes the average person a week to 10 days after his first vaccination to start building up enough antibodies in his system to be effective in warding off disease.

• **Race for Time**—If a virus spotted as causing a local outbreak of flu is one that hasn't been recorded before, it becomes a real race for time, however. Medical men first have to isolate the responsible virus, then grow it in chicken embryos, and finally get a vaccine into production in only a few weeks.

A decade ago, such rapid research and development was simply impossible to contemplate. In 1946, a variant of A-Type virus turned up at Melbourne, Australia. Health officials suspected it was a new form of the flu, since people who had received the then-available AB vaccine were coming down with the disease. But they didn't know enough about vaccine development to get moving in time. By February, 1947, a wave of flu of epidemic proportions struck the U.S. And the death rate soared.

• **Mysterious Viruses**—Nobody knows for sure whether viruses are alive or dead. Outside a living cell, they appear to be merely a bundle of chemicals. Inside it, they seem to act like living organisms in that they have the ability to reproduce themselves.

But the physical structure of viruses now seems fairly certain. Inside every virus, there appears to be a core of nucleic acid—the same substance of which the genes are made. Around this is wrapped a protein overcoat.

Scientists are now probing the idea that the protein coating is spotted with enzymes which, in a very real sense, act as the virus' pass key into particular types of living cells. As the theory goes, the enzymes eat through a cell wall and allow the virus to enter it. When the virus is inside, it takes over control of that cell.

Fortunately, for people, enzymes don't seem to be able to eat through all cell walls with equal ease. And if the human system is reasonably robust, it can build up its own antibodies to neutralize invading viruses within a few days.

What a vaccine does is force the body to build up this store of neutralizing antibodies in advance of a virus invasion. The presence of a sufficient

quantity of antibodies robs a virus of the ability to work through a cell wall.

• **Vaccine Cocktails**—The chief difficulty in developing an all-purpose flu vaccine "cocktail" lies in the fact that it takes different kinds of antibodies to neutralize each of the different types and sub-types of viruses. Some researchers think there are just too many strains of weakened viruses that would have to be put into such a vaccine. One would inevitably work against the other, one school of thought holds.

Another difficulty in developing a flu vaccine "cocktail" is the persistent habit of some flu viruses to mutate. Forced to mutate unnaturally and quicker than normally, they might, it is feared, change into real killer viruses.

Laboratories are hard at work on the problem, though. Not only at the National Institutes of Health but also at a number of leading university laboratories (such as Notre Dame), teams of researchers are working on the idea of a virus "cocktail."

• **All-Purpose Shots**—Another version of the search for an all-strain flu vaccine is the attempt to combine available flu antigens with other antigen materials to see if the presence of the one increases the efficacy of the other.

Antigen is the name given to any substance which, when introduced into the body, will stimulate the production of antibodies. Besides the flu vaccines, there are available other antigen materials to protect against diseases like the ARD (undifferentiated acute respiratory diseases) viruses (BW—Mar.17, '56,p128). Researchers want to find out whether administration of the one, in combination with the other, has an increased antibody-producing action.

Researchers believe that the related types of flu viruses, contain a broad, but probably not unlimited, range of antigens. Thus, all identified types of A are interrelated in containing the same combination of antigens. Their difference lies in which particular antigen is dominant in any particular sub-type.

The theory sometimes known as the doctrine of "original antigenic sin" forms the cornerstone of another research approach. This idea holds that whatever influenza antibody characterizes any particular age group through its entire lifetime is determined by the dominant antigen in the initial virus that the age group was exposed to in childhood. That particular generation always seems to be relatively immune to viruses in which this antigen is important.

If this theory proves correct, medical science may someday be able to turn up a vaccine that will to some degree protect a large percentage of the population against flu as well as other virus-caused diseases. **END**

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In Research

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Use of Meprobamate as Tranquilizer Instead of Barbiturates Assailed Again

For the second time in two years, the Medical Letter on Drugs & Therapeutics, a non-profit publication reaching more than 13,000 doctors in the U.S., has questioned the indiscriminate use of meprobamate for relief of neurotic anxiety or tension. Meprobamate is the generic name for a tranquilizer sold under the trade-names Miltown and Equanil, with annual sales running above \$100-million in the U.S. alone.

Reviewing the advisability of using meprobamate, a panel of medical researchers concludes:

- No scientific evidence has ever been produced to show that meprobamate is superior to simple barbiturates in the treatment of normal tensions.

- Growing evidence indicates that in many cases meprobamate produces dangerous side reactions.

- At retail, meprobamate continues to cost more than other drugs such as barbiturates.

Wallace Laboratories, maker of Miltown, flatly contradicts the Medical Letter's most recent blast. Dr. Frank M. Berger, who developed the drug, and is now Wallace's president, points to the more than 1,200 scientific papers that have been published on meprobamate. A great majority of these papers have attested to the drug's usefulness in relieving neurotic tensions and, where certain precautions are taken, have given it a stamp of approval. Wallace says that "double-blind" surveys where neither the patient nor the doctor knows whether the pill is the real McCoy or a dummy, point to meprobamate's value more than two-thirds of the time. Wallace plans to mail the results of its latest double-blind surveys to all U.S. physicians.

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New Electronic Instrument for Diagnosing Mental Illness Is Tested by Russians

Soviet psychiatrists are testing a device known as an electroencephaloscope to diagnose mental disease. Results so far, according to A. W. Snezhnevsky of the Soviet Academy of Medical Sciences, indicate that the electronic instrument is far superior to any known observational technique in providing the basis for prescription of therapy. It is also considered an elaborate modification of the encephalograph, which is already used widely for charting brain abnormalities.

The electroencephaloscope works by recording the electrical potential at 50 points on the skull and producing "mosaics" of light that are said to be characteristic of each type of mental condition. In schizophrenia, says Snezhnevsky, the device is so precise that it not only distinguishes the disease, but also can pinpoint the patient's degree of mental aberration.

Normal mosaics, as revealed by the electroencephaloscope, are dynamic, changing every 4/100ths to 8/100ths

of a second. Paranoiac patients produce mosaics characterized by inactivity, with infrequent waves of small intensity. And paraphrenics (mental patients with delusions of grandeur complicated by dream-like hallucinations), have an even more inactive mosaic. Compared to a normal brain, the duration of their waves can be as long as 1.5 seconds.

Dr. Nathan S. Kline, of Rockland State Hospital and Columbia University, says that the statistics the Russian scientists have gathered through use of the electroencephaloscope are extremely impressive. The results, he says, must be confirmed and the technique perfected before it can be used, as a diagnostic tool in the U.S. But if such checks and development effort prove out, the ability of the medical profession to treat mental disease would be vastly improved. "Our present methods," says Kline, "are largely trial and error." If a schizophrenic patient does not react favorably to one drug, the doctor then must select other drugs or insulin, or electro-shock therapy.

• • •

Progress Made on Nuclear Power Plant To Be Shipped to Antarctic Next Fall

Development engineers have started work on the first nuclear power plant scheduled for shipment to the Antarctic. Designed in a series of 30-ft. modules by Martin Co., the reactor system can be put together on the site by Navy Seabees. Shipment is scheduled for next November.

The reactor will be operated by military personnel under the Commander, U.S. Naval Support Force Antarctica, who is responsible for furnishing the logistic and operational support for all U.S. activities in Antarctica.

Designated PM-3A by the Atomic Energy Commission, the first Antarctic nuclear reactor will be similar to one that has been undergoing "zero power" tests at Martin since last March. Energy from more than 730 3-ft.-long tubes will be released in the form of heat. Water, under pressure, will convert this heat energy into steam, which will drive a turbine generator to produce electricity.

This installation will provide both a new source of heat for the U.S. colony at McMurdo Sound and an increased supply of electricity to improve communications among U.S. scientists and military men in Antarctica.

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Research Briefs

Two Weather Bureau experts have suggested that future satellites may be useful in surveying ice conditions over the water areas of the world. Pictures taken by Tiros I clearly distinguish ice from clouds and surface water.

Pres. Eisenhower has ordered that two new synthetic painkillers—diampromide and phenampromide—be brought under control of the Federal Narcotics Law because of a "dangerous addiction potentiality." The move represents a general tightening of restrictions, by health authorities, on addiction-forming drugs, such as morphine and opium derivatives.



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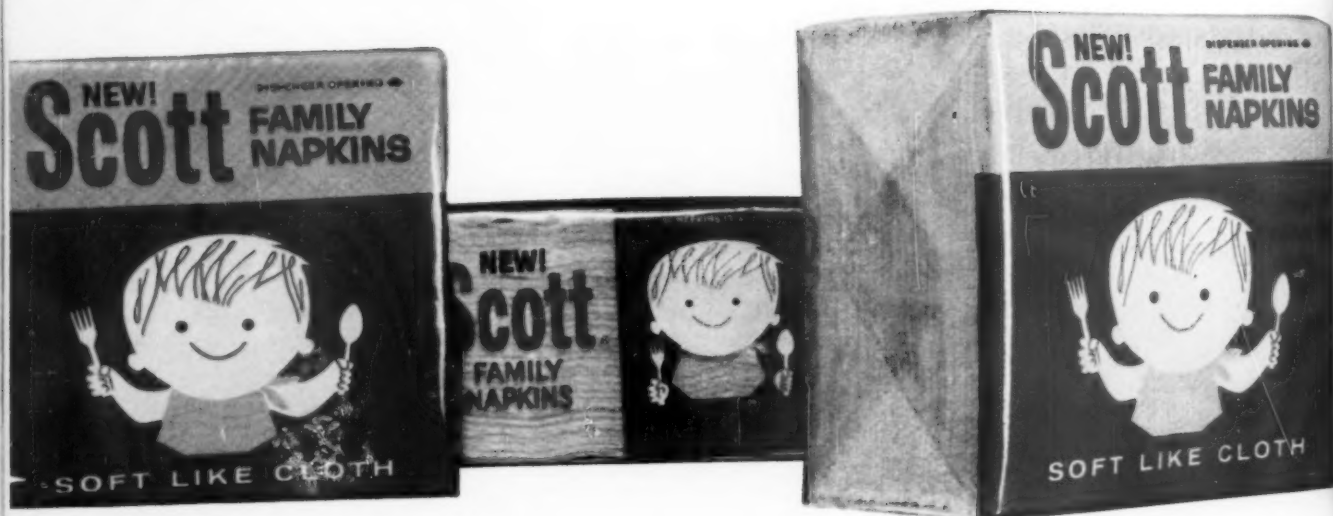
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INTERNATIONAL OUTLOOK

BUSINESS WEEK

NOV. 5, 1960



The United Nations is heading for new trouble in the Congo (page 92). There's even a chance that Secy. Gen. Hammarskjold's whole operation there will gradually collapse.

For Hammarskjold, the big problem in the Congo today is this: Most of the 15 Afro-Asian nations that contribute to the U.N. forces now are pushing for the return to power of the deposed Premier, Patrice Lumumba. A U.N. advisory committee, composed of these 15 nations, is all set to go to Leopoldville. The head of the U.N. Congo Mission, Rajeshwar Dayal of India, seems ready to play ball.

But if Lumumba should come back, and ask the Russians in again, the fat would really be in the fire. Certainly, the U.S. would not go on supporting the U.N.'s Congo operation. And today we are footing most of the bill.

Lumumba's Afro-Asian backers, with Guinea and Ghana in the lead, argue that the caretaker regime of Col. Mobutu is unstable, undemocratic, and unconstitutional. They want the Congo parliament called into session so that Lumumba has a second chance. They say he has learned his lesson and won't defy the U.N. as he did before. By pushing this line, of course, they have been weakening Mobutu's position.

Actually, the leaders of Guinea and Ghana have been counting on Lumumba as an ally ever since the Congo got its independence. They want him on their side in the power struggle that is bound to develop among the new African nations. (They want the Congo as a counter to Nigeria, which far outweighs Guinea and Ghana in terms of both population and resources.) Note also that Guinea and Ghana are pro-Soviet neutrals and want the Congo to be the same.

It's possible that Mobutu and Pres. Kasavubu can block the Afro-Asian maneuver. Moreover, the U.S. has some leverage on the situation, since the Afro-Asian nations expect us to go on paying most of the U.N. bill. And, to be sure, they know how suspicious we are of Lumumba. Even so, Washington isn't too hopeful.

U.S. officials privately admit that Hammarskjold is getting into a box where he may have to choose between two equally dangerous courses. The first would be to go along with Lumumba's return—at the risk of losing U.S. support. The second would be to lean against the Afro-Asians and risk the withdrawal of the troops they have supplied to the U.N. force. Either could lead finally to a U.N. withdrawal from the Congo.

The Administration is getting help from abroad in its fight to maintain the strength of the dollar (page 27). London and Paris are cooperating already. There are signs that Bonn soon will follow suit.

This week the British turned over \$84-million to the International Monetary Fund, thus prepaying well ahead of schedule the last part of a large borrowing made at the time of the Suez crisis. To make this payment to IMF, London took the greater part of the dollar reserves it gained during October. By doing this it reduced the potential claim on U.S. gold by \$84-million.

At midweek, also, the French Ministry of Finance announced that it would repay the rest of its outstanding debt to IMF—\$131-million.

INTERNATIONAL OUTLOOK (Continued)

BUSINESS WEEK

NOV. 5, 1960

Meanwhile, Bonn apparently has decided to make several moves to reduce pressure on the dollar. The first may be a small cut in the German bank rate. A sizeable foreign aid program also is in the works. Then, there's talk of a joint NATO fund—with a heavy German contribution—to purchase U. S. weapons that Washington is now financing.

Treasury Secy. Anderson and Under Secy. of State Dillon will visit Chancellor Adenauer late this month. They will press for a bigger German contribution to development aid and joint defense, thus reducing the load on the U. S.

Here's the line Anderson and Dillon will take with Adenauer: Prompt German action to ease the U. S. gold drain is urgently needed. It is in Bonn's interest as much as Washington's to defend the strength of the dollar. Given West Germany's exposed position in the cold war, it is essential for Bonn that the West maintain a financial structure capable of carrying the cost of collective defense.

To drive their point home, Anderson and Dillon may well advise Adenauer that the U. S. payments deficit for 1960 is likely to be at least \$3.5-billion. The deficit was \$3.8-billion last year and \$3.4-billion in 1958.

—●—

The Adenauer government is shifting to more flexible tactics in trying to stave off a Berlin crisis. A year ago, Adenauer aimed only at getting the U. S., Britain, and France to stand firm on Berlin at any summit talks. Now the Chancellor is maneuvering directly with Moscow—almost dicker-ing with Nikita Khrushchev—to maintain the Berlin status quo until after next September's elections in West Germany.

Adenauer's bargaining counter is trade—West German-Soviet trade, and trade between West and East Germany. There are reports that Bonn is prepared to double machinery exports to the USSR, and grant long-term credits, if Khrushchev will go slow on Berlin. What's more, Adenauer is showing reluctance to retaliate with trade sanctions against East German pressures on Berlin.

—●—

Chiang Kai-shek is cracking down hard on non-Communist opposition to his Kuomintang party in Taiwan (Formosa). Last month, a military tribunal sent to prison Lei Chen, an editor who has been trying to start an opposition group, the China Democratic Party. He was charged with sedition. Now the Nationalists have arrested another leader of the new party, Li Wan-chu, on similar charges. He is awaiting trial.

The attempt to build an opposition in Taiwan is evidence of dissatisfaction with the Kuomintang, which had promised to relax political controls. But the arrests show that Chiang will tolerate no opposition to his single party regime.

The Nationalists are worried over mounting pressures in the United Nations, and even in the U. S., for a "Two Chinas" policy, which would formally recognize Taiwan as a separate state. Lei's party and other Taiwanese elements advocate this move. Chiang still maintains that Taiwan is part of China (as do the Chinese Communists) and insists that he will one day return to the mainland.



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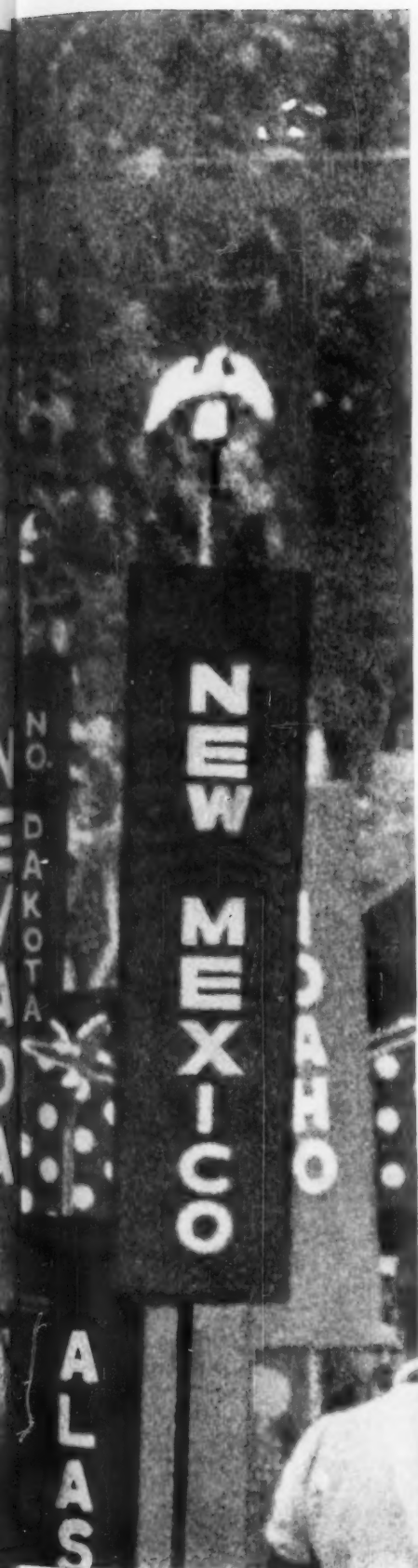
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Easing Rates in Mortgage Market

With slack demand for home loans and the general availability of funds for all sectors, rates are beginning to slip.

Housing men see a quickening in the transition from tight to easy money in the mortgage market.

That's the salient point of a BUSINESS WEEK survey of mortgage lenders over the past few weeks. Most lenders—however reluctant—say the supply of mortgage funds is ample, and that a $\frac{1}{4}$ ¢ cut seems likely for residential, commercial, and industrial mortgage rates before next spring. They add these rate reductions will be in force only for prime mortgages; marginal applicants will find it stiffer going, they say—but this may be only wishful thinking. Rate reductions are already showing up in areas where demand is soggy, and where competition forces reductions in order to capture loans.

• **Slow Response**—The change in mortgage rate patterns, even though it promises to be a slim one, carries a good deal of significance. This year, mortgage rates, normally slow to respond to changes in the money market, have been stickier than ever in reaction to Federal Reserve Board actions to ease credit. Rates have softened a bit—from $\frac{1}{4}$ to $\frac{1}{2}$ of a point, but only in areas where demand is especially soft or where available funds are in surplus.

Housing experts say the failure of rates to come down sharply and promptly is one reason why business hasn't shown any spirited signs of snapping back from its current slump. Housing has acted as a contracyclical agent in each of the postwar recessions; when general business was down, housing starts moved the other way, thereby countering the downward spiral.

There's a big question in some economists' minds whether a housing upturn this time will be as effective a counter as it has been. The response of the housing market to the slight reduction in rates so far has been moderate, and economists raise the point that perhaps housing as a contracyclical force is losing its steam. Dr. John Lintner of Harvard, for one, suggests that the sluggish resale market shows that the basic shortage of housing seems to have been met, that the leeway in mortgage rates also is close to being used up—extending maturities from 25 to 30 years, he says, is far less effective than pushing them out from 20 to 25 years.

But Administration housing authorities, at least, feel housing will do its job again, and they welcome signs that lenders are willing to cut rates. One

White House economist complains that lenders have money to invest, seek mortgages, yet decline to cut rates to get them. "This failure to face reality on price," he goes on, is a big reason why home mortgage demand is slack.

Lenders, of course, can muster arguments to support their stand. An official of a big Eastern insurance company feels demand is strong enough to merit the 6% rate he's putting on most mortgages. Many savings & loan associations are reluctant to cut rates because of the high dividend rates they're maintaining. Others argue that any easing so far hasn't brought in additional demand, so why bother cutting rates further.

In any case, it seems apparent that rates are softening for all mortgage loan categories.

• **Home Financing**—For the most part, mortgage money for the residential area is ample. The U.S. Savings & Loan League, for example, representing 4,700 institutions with assets of some \$68-billion, says that savings scored a net gain of \$5-billion in the first nine months of 1960. This was 9% better than a year ago, yet home lending was down 8%. September, in fact, showed a lending increase among S&Ls for the first time this year.

The differential between mortgage rates and corporate bond yields also should push more insurance companies and banks—and the major "swing" element in mortgage financing—into mortgages. FIIA rates now are 5 $\frac{1}{2}$ %, compared with a yield of about 4 $\frac{1}{2}$ % on top-grade corporates. This 1 $\frac{1}{2}$ % spread, the widest since July, 1958, indicates that lending institutions will undertake to increase their holdings and commitments for mortgage loans.

Although the situation differs somewhat in various parts of the country, the availability of mortgage funds—and its impact on rates—is evident almost everywhere.

Addison Reese, president of Charlotte's North Carolina National Bank, points out that insurance companies, which have been able to net 5 $\frac{1}{2}$ -to-6 $\frac{1}{2}$ % in other states, now are willing to invest in North Carolina mortgages under its legal 6% limit, netting them 5 $\frac{1}{2}$ %. In Houston, one S&L man says: "We've got more money than we can find mortgages for. Rates will have to ease, and insurance companies will come down with us."

An Omaha mortgage banker also says

that some of the big insurance companies are less choosy about the old homes they will finance. "We've been limited to houses not more than 20 years old. Now they're saying that if the house is pretty good, send it in anyway."

In Chicago, there's been a mild softening of rates, and some sympathetic adjustments in downpayments and terms by lenders. The Chicago Federal Reserve Bank describes the conventional rates as closer to 6% than the 6 $\frac{1}{2}$ % a few months ago. The supply of funds in the Chicago area, moreover, is so large that institutions are participating in West Coast financing—for example, buying blocks of FIIA mortgages in California.


In the East, demand generally is easing, but rates are still tight. Boston's rates, for instance, have come down only about $\frac{1}{4}$ of a point in the past six months. But a John Hancock spokesman acknowledges that rates are weakening, says further cuts are on the way. In San Francisco, where demand is off, funds are more plentiful than anytime since the fall of 1958. Some bankers expect rates will ease by the first of the year; others insist that "no material change is anticipated." Even in Denver, where demand is high, prime mortgage rates have been cut.

• **Commercial Mortgages**—In commercial and industrial mortgages, there's also been a weakening process. Demand in many areas is strong and rates are still firm, except for prime mortgages—and where competitive pension funds are active. But a turnabout is close.

James Bourke, vice-president of the First National Bank of Chicago, says there's a tendency among spenders of big money in industrial building to "wait and see" how business goes. The bank says opportunities for new commitments are coming in more slowly and existing commitments are being delayed.

Sherwin C. Badger, financial vice-president of New England Mutual Life Insurance Co., which has about 26%—or \$2.2-billion—of its assets in mortgages, also says competition for mortgages is building. New England now is telling its correspondents that it will take a \$2-million mortgage, whereas formerly it might have been able to bite off only \$500,000 or \$1-million at a time. Payson Rowe of John Hancock also sees a softening of mortgage demand, and Rowe, like other big insurance lenders, feels rates may have to come down a bit to meet competition. **END**


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Mutual Funds vs. the Averages

COMMON STOCK FUNDS	*NET ASSETS PER SHARE		ADJUSTED NET CHANGE
	12-31-59	9-30-60	
Dow Jones 30 Industrials	\$679.36	\$580.14	- 14.6%
Standard & Poor's 500 Stocks	59.89	53.52	- 10.6
Standard & Poor's 425 Industrials	64.50	56.70	- 12.1
Wellington Equity	\$12.94	\$13.03	+ 0.7%
National Investors	13.41	13.35	- 0.5
Dreyfus Fund	15.10	14.15	- 2.7
Incorporated Income	9.19	8.90	- 3.2
Texas Fund	9.78	9.21	- 3.3
State Street Investment	37.02	35.15	- 5.1
Affiliated Fund	7.48	7.02	- 6.2
Keystone Income Common Stock (S-2)	11.94	11.13	- 6.8
Eaton & Howard Stock Fund	12.45	11.44	- 8.1
Group Securities Common Stock	12.70	11.59	- 8.8
Investment Trust of Boston	11.87	10.47	- 9.2
Broad Street Investing	12.93	11.73	- 9.3
Bullock Fund	13.36	12.07	- 9.7
Fidelity Fund	16.81	14.47	- 10.3
Massachusetts Investors Trust	13.93	12.42	- 10.8
Lazard Fund	17.47	14.71	- 10.9
Delaware Fund	12.20	10.63	- 11.4
Financial Industrial Fund	4.53	3.88	- 11.9
Fundamental Investors	9.67	8.52	- 11.9
Aberdeen Fund	2.25	1.97	- 12.3
One William Street	14.02	11.76	- 12.5
de Vegh Mutual	73.44	54.19	- 12.6
National Sec. Stock Series	8.91	7.37	- 13.9
Incorporated Investors	10.11	7.91	- 14.8
GROWTH STOCK FUNDS			
Putnam Growth	\$12.61	\$13.41	+ 6.3%
International Resources	5.20	5.25	+ 1.9
T. Rowe Price	13.70	13.46	- 1.8
Keystone Growth Fund (K-2)	14.70	14.27	- 2.9
Mass. Investors Growth	14.40	13.94	- 3.2
Diversified Growth	9.65	9.19	- 4.8
Television-Electronics	8.13	7.61	- 6.4
Chemical Fund	11.61	10.54	- 9.2
Natl. Sec. Growth	9.01	7.95	- 9.4
Keystone Low-Priced (S-4)	13.74	11.78	- 12.1
BALANCED FUNDS			
Istel Fund	\$31.92	\$32.59	+ 2.3%
American Business Shares	4.15	4.16	+ 0.2
Nation-Wide Securities	19.61	18.94	- 0.1
Boston Fund	17.78	16.81	- 0.3
George Putnam Fund	14.30	14.24	- 0.4
Loomis-Sayles Mutual Fund	14.79	14.62	- 1.2
Stein, Roe & Farnham	38.62	35.52	- 2.1
Wellington Fund	14.15	13.63	- 3.7
Diversified Investment	9.00	8.57	- 4.8
Eaton & Howard Balanced	11.49	10.94	- 4.8
Scudder, Stevens & Clark	19.16	18.05	- 5.8
Income Fund of Boston	8.12	7.30	- 6.2

(*) Adjusted for stock splits or stock dividends, if any. (+) Capital gain distributions declared during the first nine months of 1960 were added back to net assets per share on September 30, 1960, before determining the net change.

Data: Standard & Poor's.

BUSINESS WEEK

The table above gives a quick view of how mutual fund managers performed in 1960's first nine months. Over all, they did well. Few funds gained in net asset value per share, but the majority held their declines below those posted by the Standard & Poor's and Dow-Jones price indexes.

Balanced funds—mixing bonds and stocks for stability—fared best; all the top ones beat the stock averages. Common stock and growth stock funds varied more in performance. The relatively new Putnam Growth Fund gained 6.3% on off-beat investment selections. **END**

Wall St. Talks . . .

. . . about possible abandonment of "bills only," next Treasury head, stock declines, Brunswick financing.

Government bond dealers are betting that the Federal Reserve will quietly abandon its cherished "bills only" policy—the practice of dealing only in 91-day government bills. They think this is probable after the election, no matter who wins, because it has widened the gap between rates here and abroad (page 27). A change seems sure if Kennedy wins, for he came out against "bills only" in his statement on the defense of the dollar.

Wall Street men are wondering who will be the next Secretary of the Treasury. If Nixon wins, the talk is of either Henry Alexander, head of Morgan Guaranty Trust Co., or Fred Scribner, Jr., now Under Secretary. No one is sure who Kennedy might choose, but some think it would be a conservative who has the respect of foreign banking circles. As for Secy. Robert B. Anderson, there's talk he will head a big New York bank.

A compilation by Templeton, Dobrow & Vance, Inc., investment counselors, shows that of the 1,900 stocks listed on the New York and American exchanges, over 400 have declined by 50% or more since 1955. Many stocks, it shows have dropped 50% this year.

Rumors are spreading that Studebaker-Packard will acquire NAFL, which took over Chris-Craft earlier this year (BW—May 7'60, p45). But officials of both companies say there is no deal on the fire.

Brunswick Corp. is negotiating with underwriters on a possible long-term financing. Brunswick now has an arrangement with C. I. T. Corp. for financing sales of its automatic pinsetters, and the talk is that it will put out a debt offering so that its wholly owned Brunswick Credit Corp., set up last July, can take over completely just as Brunswick itself had earlier taken over manufacture of the pinsetters, from Otis Elevator Co.

Brokers say that some Swiss banks, which sold their American equities earlier this year, are showing new interest in the market now that prices have come down substantially—and prices of foreign equities have increased. But there's no telling whether the Swiss interest is in behalf of American clients or on their own account.

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In the Markets

• • •

Stock Rise Gives Wall Street Hope For a Turn, Whoever Wins Election

Stock prices moved up this week from the year's lows—and Wall Street brokers, ever hopeful, took the rise as a sign of a pre-election rally. As one broker put it, "it doesn't matter who wins, the next administration will be spending more money to counter the current economic decline."

While there are differences of opinion among analysts on what the election will mean to the market, there is a general feeling that stock prices have already absorbed most of the selling pressure, and that the next major move will be up. It may not come immediately, but if the decline in the economy is held to modest proportions, Wall Street feels that a turnaround is inevitable.

The floor broker of one Wall Street house reports that floor traders are "neither bullish nor bearish." But he also says that there was aggressive buying of some stocks in the defense field, as well as short covering of some of the electronics.

When, and if, the market does recover, the chances are that the stocks leading the way will not be those that were the leaders in the bull markets of the 1950s. Many defense issues, which have been in what amounts to a private bear market, will probably benefit from increased government spending, and there's a prospect that companies in the machinery field may be favored because of rising expenditures on public works. It is unlikely that the depressed steels, or the electronics group will do as well.

• • •

Pricing May Determine Success Of TVA's First Bond Offering

Despite widespread preliminary interest, particularly from pension funds and personal trust funds, investment bankers feel success of the coming issue of \$50-million power revenue bonds to be offered Nov. 15 by the Tennessee Valley Authority (BW—Sep.24'60,p155) depends on pricing.

Pricing the issue will not be easy. The four syndicates bidding on the offering, the first to be made by TVA under legislation authorizing it to have up to a total of \$750-million in bonds outstanding at one time, are faced with the problem of placing the bonds in their proper market slot among municipals, government agency bonds, and corporates. The TVA issue has things in common with all three categories, but current feeling ranks it closest to corporates, as the bonds will not be guaranteed by the federal government and are not exempt from federal income taxes.

Present speculation is that the syndicates are thinking of pricing the issue to yield something in the area of 4.50%, as the bonds will carry the highest rating—Aaa from Moody's, A1+ from Standard & Poor's. But some

institutional men feel a price based on that yield could prove sticky; they point out that the similarly rated \$250-million AT&T issue was sold last week to yield 4.60%.

Success of the initial offering is important to TVA. TVA Chmn. Herbert Vogel says the authority plans to come to market about twice a year, to sell \$100-million to \$150-million worth of bonds annually to pay for its power expansion plans.

• • •

Response to Treasury Refunding Helps to Pep Up Bond Market

The bond market this week reacted favorably to the Treasury's \$10.8-billion refunding that was helped along by the announcement that the Federal Reserve was planning to make more reserves available to the banking system.

The Treasury offered a choice of two new issues to holders of its maturing obligations:

- A 15-month note with a 3½% yield drew the biggest demand, as banks and other institutions showed a willingness to stretch out their usual buying practices to take advantage of the generous yield.

- A 5½-yr. bond with a 3½% coupon was also considered attractively priced.

As bond dealers see it, prices should rise over the next few months, barring any federal spending that might lead to a huge budget deficit. Events of the last week add ginger to their argument.

For one thing, the Fed's move to add \$1.3-billion to the banking system's reserves, they say, is a sign that the Fed increasingly is worried about the domestic economy. Moreover, banks probably won't be able to use all the additional lending power, so part of the surplus, at least, should be invested in Treasury obligations.

• • •

NYSE Will Make Good Losses Suffered By Customers of Du Pont, Homsey

The New York Stock Exchange will announce soon its plan to make good \$700,000 in losses suffered by customers of Du Pont, Homsey & Co., a Boston brokerage firm now in receivership. The losses were sustained through the actions of Anton Homsey, now under arrest on charges of securities violations, who allegedly used his customers' securities for his own use.

The plan apparently calls for NYSE to put up \$700,000 to cover any losses that satisfy conditions that the NYSE will impose. This would be the first time that the NYSE has undertaken to cover losses caused by member firm violations, and probably will be the forerunner of a more systematic way of handling any losses. NYSE's big block of government securities would be a logical source for the money needed.

NYSE's action also has revived talk that it may require firms that are partnerships to carry fraud and embezzlement insurance against partners as well as employees. At present, this is required only of corporate member firms.

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Contrast in Bargaining Methods

● Two electrical unions, UE and IUE, settled with General Electric on much the same terms—GE's terms.

● But the more realistic UE did so without a strike, while IUE called a walkout that ended in complete surrender.

● Now UE boasts that it did get GE to give the union some voice in a program for retraining and reassigning workers whose jobs are limited.

Late last week, the United Electrical Workers and the General Electric Co. reached agreement on a new three-year contract. There had been hard bargaining—but no strike by UE's claimed 38,000 represented in GE plants. Basically, the settlement was on GE terms.

However, the agreement was not a carbon copy of that which ended a three-week strike against GE by the International Union of Electrical Workers a few days earlier (BW—Oct. 29/60, p82). There are differences, although perhaps not very great ones. Their importance remains to be seen when the contracts are in operation under layoff conditions.

To employers generally, the differences in negotiating techniques—IUE's toughness, UE's realism—and the similar results obtained by the two unions are more interesting than the precise differences in their contracts.

• **The Bargaining—IUE**, the dominant union in the GE system, entered negotiations with GE with a big chip on its shoulder. Headed by James B. Carey, its president, IUE was militant to a point of brashness and bravado. UE, the second union in the industry, was militant in its approach to the bargaining table but realistic once there.

Here is how the differences in IUE and UE bargaining showed up against GE's pattern of negotiations:

• Its confidence buoyed perhaps by an expectation that it would get solid backing from all AFL-CIO unions that deal with GE, IUE served a 60-day notice that terminated its GE contract at midnight Oct. 1. UE did not serve a termination notice, so its contract with GE was extended automatically for one year, intact; UE dues continued to be checked off and grievance and other union security clauses remained in effect.

The result: IUE had to bargain with an Oct. 1 deadline—when a “no contract, no work” policy would have to be followed or pointedly put aside. UE had no deadline or bargaining pressure.

It couldn't be hurt. It had a good chance of gaining in big or little terms, depending somewhat on how serious a showdown developed in IUE's negotiations. In the end UE's gains were small ones.

• IUE concentrated at the bargaining table on impassioned arguments for its own wage and job security demands and attacks on what GE offered. UE made its case for its demands and against “GE's cut-rate offer,” its description of General Electric's proposals. Then UE settled down with GE to a careful and detailed consideration of its entire contract, clause by clause, beginning with the preamble.

The result: When IUE ended its strike, it did so in a two-page memorandum of agreement that left much of the contract-writing work undone, to be haggled over by attorneys, with a very real possibility that labor-management differences of interpretation may remain. UE's settlement was in the form of a definitive 100-page document that the union and GE agree includes everything in precise contract terms.

• IUE settled after three weeks on the company's prestrike terms—denounced throughout bargaining as “completely unacceptable”—except that GE voluntarily dropped a proposed retraining program criticized by IUE. UE claims some modifications in GE's termination and layoff plan offers, and technical “improvements” in the retraining program to make it acceptable.

The result: IUE concedes a defeat—due, its leaders contend, to “treachery” within its strike ranks. UE claims a breakthrough in one area of its four-point job security program—on its demand for a retraining plan giving the union a voice on “rules [and] criteria to be used by management in its selection of employees” to be retrained. Over-all, neither union is happy. Both recognize that nothing beyond GE's original offer was actually won.

If there is a gain for UE in the retraining area, it is one other unions

could have had—in fact, probably still can have through local bargaining.

• **Same Destination**—As General Electric interprets the rival unions' contracts, UE and IUE traveled to the same destination by entirely different routes. The independent UE's agreement was not worked out after the IUE pact was reached. Its terms were pretty much agreed on by company and UE negotiators about Oct. 10; an announcement of a settlement was first expected Oct. 14 but was postponed.

UE delayed signing because, it says privately, it saw IUE's strike “collapsing much faster than we expected it to.” It held back, strategically.

Westinghouse Electric Co. and IUE's Westinghouse division led by Al Hartnett, the union's secretary-treasurer, signed without a strike—basically on company terms—on Oct. 20. IUE's GE strikers led by Carey had hoped Westinghouse workers would join the walkout, to increase the impact in the industry. Without reinforcement, IUE had to quit its GE strike on Oct. 22.

When GE and UE negotiators met the first of last week, GE offered to withdraw the retraining program as the company had in its final talks with IUE. UE said that it wanted the retraining program as it had been modified in five weeks of specific bargaining.

It's entirely up to you, UE's negotiating chief James L. Matles told GE: if you want to drop the retraining program, it's your responsibility—UE will make clear to everyone that you did it. So the retraining clause, part of GE's plan from the start, stayed in the UE pact.

• **Why the Interest?**—UE conceded that it had been unable to win any ground on three of four of its principal demands for 1960—on a shorter work week with no loss of pay, the right of a worker to move with his job if a plant or a department is moved, or the right of a worker “bumped down” to keep his previous higher rate of pay.

But on the fourth point demanded, a retraining program that would give the union a voice in what it complained had been a “closed management rights area for years,” the union claimed a partial victory and boasted it considerably alters the company's original proposal. Actually, UE couldn't get the retraining plan it wanted; it took what it could get, as better than none.

To GE, the changes claimed by UE are technical ones unlikely to make any substantial difference in the actual operation of the retraining program as originally contemplated by the com-



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pany. The biggest changes are that the program becomes a part of the national GE-UE contract (in which seniority rules, grievance procedures, and the right to strike are spelled out) instead of a supplementary agreement, and that retraining rules are made subject to mutual agreement instead of an ambiguous mutual discussion.

According to Matles, the GE offer of a retraining and reassignment program was not "philanthropy" but a carefully considered step toward saving "some workers" by adding to their skills. UE's insistence on a right to intervene in the retraining is to assure equal opportunities for all, Matles said.

To the union, this clause could be an important gain in the next three years of spreading automation and production changes. Its significance is less immediate than potential. UE plans to use it to the extent that it can in dealing with the company, as a propaganda device otherwise, in instances where GE may lay off workers with some skills, hire workers with other skills.

The importance that both the company and union placed in the specific wording and interpretation of retraining and reassignment clauses is shown by the fact that the final version—in the contract—is the 12th draft.

• **Other Provisions**—The UE-GE agreement provides for a 3% wage increase effective Oct. 24 and another 3% on Apr. 2, 1962, plus an eighth paid holiday and a fourth week of vacation after 25 years, both beginning Jan. 1, 1961.

IUE won the same 1960 raise and the right to choose between 4% more in 1962, 3% then and the additional holiday and week of vacation, or a wage reopening in 1962. UE made its choice at the negotiating table.

UE claims other minor gains, in the area of termination and layoff pay.

The GE plan, based on an 18-month study, provides that workers with three years or more of service are eligible for layoff income or termination pay equal to one week's pay for each year, with a choice of (1) taking it all at once and seeking work elsewhere; (2) using part or all of it for outside schooling in new skills, or (3) using it to supplement state jobless-pay by drawing half of regular pay each week after state benefits run out, for as long as the amount credited holds out.

UE's "gains" are claimed in special provisions for workers over 60 who may be laid off under an early-retirement plan. One guarantees them recall rights for three years. Another delays the start of pension payments until after unemployment compensation runs out. UE also claims minor concessions for workers laid off at age 59.

It's doubtful that any of these would stand up as gains of substance for UE under close scrutiny. **END**

Cut-Rate Drugs for Unionists

New York City unions will operate drugstore chain to supply their members at lower prices.

Thirteen unions in New York City are going into the cut-rate drugstore business. Last week they announced the formation of a nonprofit corporation called Medstore Plan, Inc., which will operate a chain of pharmacies for the unions' 350,000 members and their families—similar to the union-run drugstore shown in the picture. The unions have had the idea under study for several months (BW—Jun. 4 '60, p38).

Their announcement stirred immediate business interest for several reasons:

- Medstore's customers are expected to save at least 30% on the price of their prescriptions and other drugs at the start, more later as the chain experiments with cost-cutting techniques in drugstore design, packaging, and dispensing. If these techniques prove successful, they could spread out to privately owned pharmacies.

- The plan will serve as a pilot project to give the participating unions a sound actuarial basis for prepaid drug insurance. The Health Insurance Plan of Greater New York (HIP), a nonprofit medical-care insurance plan, has agreed to do the statistical analysis. Since drug insurance has begun to turn up as a contract demand in collective bargaining (particularly where unions have already won medical and hospital insurance), employers have a dollar-and-cents stake in the results.

- **Several Outlets**—The first Medstore pharmacy is scheduled to open in midtown Manhattan shortly after Jan. 1. Five others are planned for the city's four other boroughs and Long Island, to open before the end of 1961. All probably will operate like the cut-rate drugstore run by District 65 of the Retail, Wholesale & Department Store Union in its New York City headquarters, where customers must show a union book to be served.

With 30,000 members in the New York area, District 65 employs seven registered pharmacists, fills 300 prescriptions a week, and markets its own brand of aspirins, vitamins, and other non-prescription drug products. Like Medstore, it estimates the savings to customers at 30%. It has operated its own pharmacy for eight years.

Medstore will be financed by a single payment of \$1 per member by the participating unions, giving automatic coverage to each union member and his family. That means the first



UNION DRUGSTORE run by District 65 of Retail, Wholesale & Department Store Union in New York City serves as model for new cut-rate drug chain.

drugstore will have a million potential customers the day it opens its doors. Paul Hall, president of the Seafarers International Union and acting chairman of Medstore's board of directors, said he expects the membership to triple within a year, judging by the interest shown by non-participating unions.

- **Unhappy Pharmacists**—Not all reactions were enthusiastic, however. Benjamin L. Gudes, executive secretary of the New York Retail Druggists Assn. and head of the Emergency Committee for Pharmacy & Public Health, charged that Medstore pharmacies would have to be subsidized, that they might dispense inferior drugs, and that they might force the closing of hundreds of neighborhood drugstores.

As for prepaid drug insurance, Gudes attacked the unions' approach as "piecemeal" and HIP's role in handling the research as "improper." He called on Mayor Robert F. Wagner to convene a meeting of labor, consumer, medicine, and pharmacy representatives to study the problem in depth. NYRDA would back an insurance plan if it were workable, he said.

- **Small Operation**—Medstore will not destroy the neighborhood drugstore,

Hall replied. It expects to do an annual business of \$3-million, or slightly better than 1% of the \$284-million business done by New York's 5,000 drugstores, he said.

In any case, it will stock only drugs and such closely related items as mouth washes and ointments, not the wide variety of goods carried by the typical drugstore, Hall said. A bureau of standards supervised by Dr. George Baehr, former president of HIP, will screen all items for quality and cost.

The unions had been discussing plans for both cut-rate drugs and prepaid drug insurance in a general way for several years, according to a union spokesman. They began speeding up the whole program and blueprinting detailed plans after the revelations of drug-pricing practices made public by the Kefauver Senate Anti-Trust & Monopoly subcommittee.

- **Sponsors**—Medstore's sponsors are local units of the State, County & Municipal Employees; Dining Room Employees; Machinists (two affiliates); Electrical Workers; Ladies' Garment Workers; Office Employees; Seafarers; Textile Workers; Auto Workers; Retail Clerks; Transport Workers, and Chefs, Cooks, Pastry Cooks & Assistants. **END**

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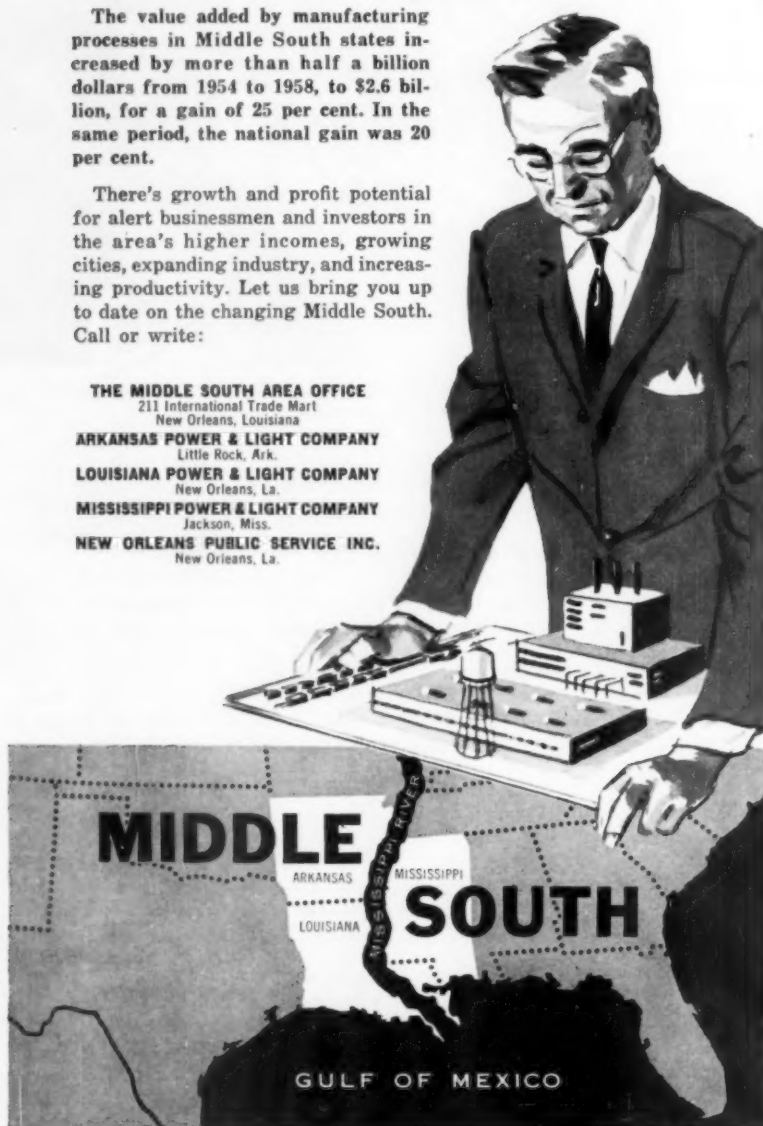
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ASTRIDE THE MIGHTY MISSISSIPPI

Off the Hook

End of monitors' supervision of Teamsters is near as union plans convention to reelect Hoffa as president.

The two-year-old monitorship in the International Brotherhood of Teamsters is nearing an end. A "virtual agreement" has been reached by attorneys for James R. Hoffa and rank-and-file unionists whose challenge of Hoffa's election brought the IBT under court-appointed monitors in January, 1958. A convention is expected within three months to reelect Hoffa—legally.

The timetable still could be upset, but at midweek final decisions appeared in the offing. Teamsters committees were already exploring the availability of convention facilities in three cities—Chicago, St. Louis, and Detroit. And, as if by signal, IBT locals around the country began adopting resolutions favoring the reelection of Hoffa.

• **Court Decision**—The U.S. Court of Appeals in Washington brought a windup of the monitorship closer late last week when it denied the right of District Court Judge F. Dickinson Letts to name former FBI agent Terence F. McShane as new chairman of the board of monitors.

The chairman is the impartial member of a three-man board that includes one representative each for Hoffa and his critics. Hoffa challenged the McShane appointment because the former FBI agent participated in the investigation conducted by the bureau into Hoffa's affairs and those of the Teamsters. The appellate court agreed that the appointment would be improper.

The Hoffa forces also won an earlier legal test in the court, which ruled that Hoffa cannot be ousted from the IBT presidency except by a democratic vote of the union membership. This dashed hopes of anti-Hoffa forces that he might be removed by court order.

• **Conferences**—After the Court of Appeals held that only the Teamsters members could act against Hoffa, the court urged delays and decisive steps to bring the monitorship to an end through a supervised convention and election.

For the past five or six weeks, attorneys for all involved have been meeting in Washington on terms of a settlement that would include changes in the IBT constitution to guarantee democratic meetings, secret elections, the end of local trusteeships, and other reforms. Although they agreed among themselves to withhold progress reports, the word within the Teamsters is that agreements were reached on major points by the end of last week. **END**

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Because of fabrics made from Avisco XL-I rayon fiber it is now possible to engineer stronger, lighter-weight belts. Compared to the traditional fiber, fabrics of XL-I rayon have up to 60% greater tensile strength and 3 to 5 times the fatigue life.

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In Labor

• • •

NLRB Ruling on Dues Checkoff Clause Opens Way to Legal Inter-Union Raiding

A National Labor Relations Board decision that could legalize inter-union "raiding" among half the nation's organized workers had labor officials in an uproar this week.

NLRB ruled that a contract between Boston Gas Co. and the United Mine Workers' District 50 did not bar an election sought by the Utility Workers Union. Ordinarily the existence of a contract bars an election. NLRB said the contract contained a dues checkoff clause not in conformity with the Taft-Hartley Act. The clause provided that a worker must notify his employer and the union in order to revoke his checkoff authorization—not just his employer, as the board says Taft-Hartley specified.

The clause is a routine part of almost every contract that includes a checkoff. AFL-CIO estimates that half its membership is covered by such contracts and the percentage is probably higher among unaffiliated unions. Under the ruling, any union could legally challenge representation rights established by these contracts at any time.

AFL-CIO's Industrial Union Dept. has filed a motion asking NLRB to reconsider its decision.

• • •

United Rubber Workers Names Rex Murray Organizing Director, Plans New Campaign

The new organizational director of the United Rubber Workers, Rex C. Murray, is a veteran rubber unionist who led the first sitdown strike in the industry in 1934. He succeeded George Burdon, now president of the 180,000-member union.

Murray, 52, has been on URW's international staff since 1937, most recently as a special representative in bargaining situations and supervisor of URW's Supplemental Unemployment Benefits program.

The appointment to URW's top organizing post is particularly important because Burdon has announced plans for a stepped-up organizing campaign that will reach into new areas of URW's jurisdiction.

• • •

Teamsters, Other Unions Show Interest In Longshoremen's Automation Fund

The agreement between West Coast longshoremen and the Pacific Maritime Assn. on a six-year \$29-million automation fund (BW-Oct.29'60,p86) has created pressures for a similar solution to problems in other industries.

The International Brotherhood of Teamsters already has put out feelers to the California Trucking Assn. on

the possibility of discussing "realistically" problems of mechanization in that industry. The IBT and the truckers' association are affected by the dock agreement because of the close relationship of trucking and dock jobs. West Coast trucking industry contracts run out next July.

One employer said last week that mechanization problems are sure to be a major issue then and—as far as he is concerned—"a financial settlement to absorb the effects of automation would appear to be preferable to accepting work rules to slow work done more than now." The truckers already complain that obsolete rules cut efficiency and increase costs.

Meanwhile, unlicensed ship personnel—sailors, firemen, and cooks—in the Sailors Union of the Pacific (AFL-CIO) have asked the PMA to negotiate such a fund for offshore unions. According to SUP, it's time for one because "we've been mechanized since the old sailing ship days."

• • •

Canada Faces High Unemployment This Winter, Labor Congress Says

Canada faces the worst winter of unemployment since the war, according to the Canadian Labor Congress. The CLC predicts 600,000 jobless early in 1961. The average for the first three months of 1960 was 542,000.

So far, no major industrial or government groups have disagreed with the CLC report, based on a business study. CLC's report says that nine out of 10 of the jobless will be men, three-fourths of them between 25 and 64.

Canada had a million more workers last summer than in the summer of 1953, but according to CLC at the peak of employment there were only 800,000 more jobs for them—more than half for women instead of men.

• • •

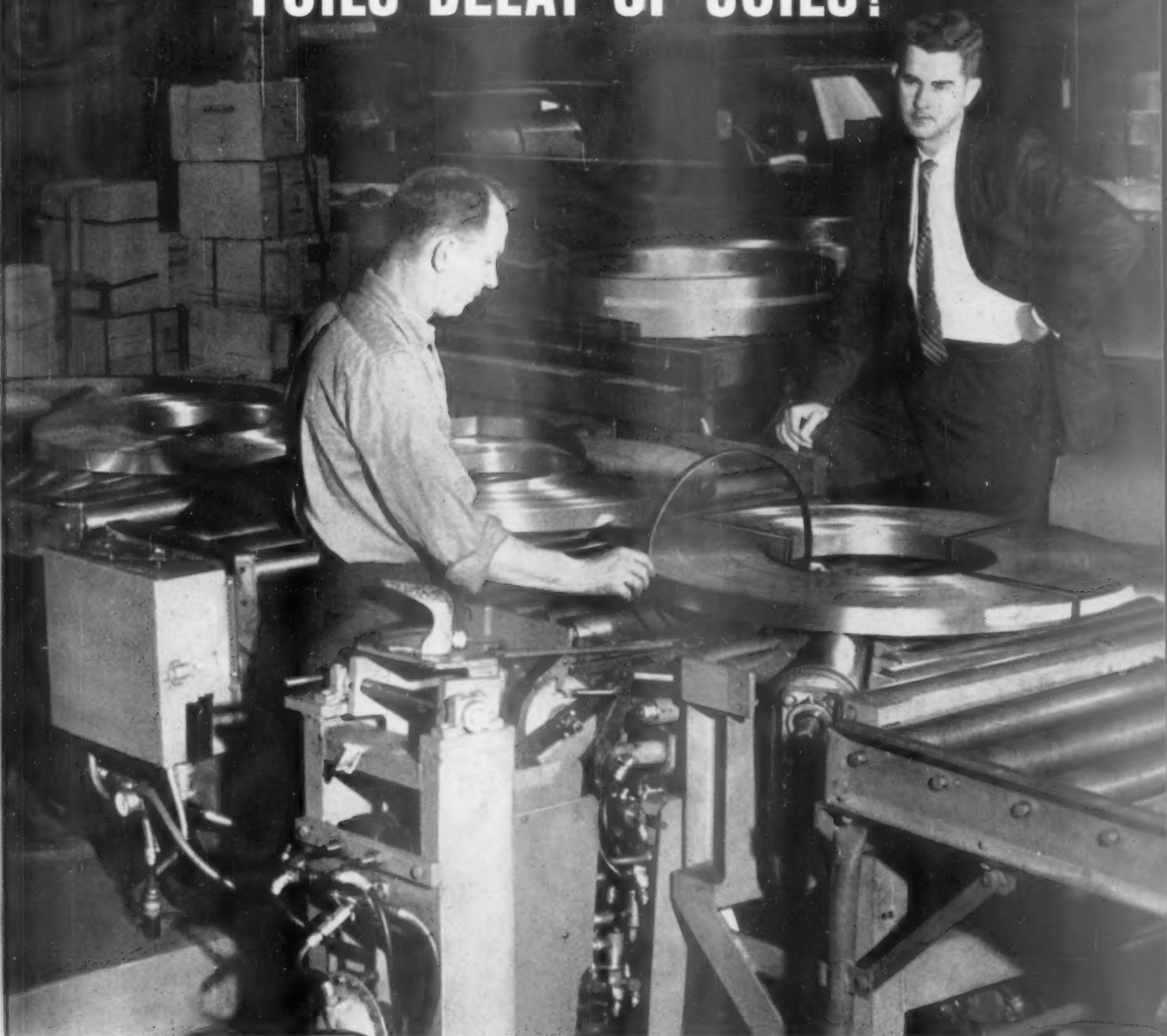
Labor Briefs

A strike that threatened to shut down seven major newspapers in New York was averted this week. Publishers and the American Newspaper Guild signed two-year contracts for a \$4 wage-and-benefit increase the first year, \$3 more the second. The papers formed a solid front against ANG; they said that if ANG struck one paper, all would close.

A 14-month labor dispute ended this week at Mitsui Mining Co.'s Miike mine in Japan—scene of considerable violence (BW-Apr.9'60,p61). The settlement that will send 12,000 back to jobs provides for modernization and personnel rationalization of the Mitsui company.

The United Steelworkers is continuing to press for a voluntary or legislated cut in the industry's work week, from 40 to 32 hours, to relieve a situation that USW says finds "nearly half of our membership either laid off or underemployed." David J. McDonald, president of the union, concedes a 32-hour week would be expensive but says it would be "much better for all—the industry included" than high unemployment.

FOILS DELAY OF COILS!



Acme Idea Man Gene Fairbank (right) suggested Idea No. S4-12 to United Flat Rolled Products, Chicago.

United Flat Rolled Products, Chicago, beat bottlenecks in slit coil production with a conveyORIZED Acme Steel F4 Strapping Machine—and tripled production capacity in the process!

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There isn't another truck in the land like this one. The driver's up front, the engine's in the rear and all the rest is load space—enough to hold up to 1,900 pounds on a light handling 95-inch wheelbase! You haul more and you do it for less with a fuel-saving air-cooled rear engine

that never needs water or antifreeze or radiator repairs. Check out a Corvaire 95 (pickup or panel) at your dealer's for cab comfort and load accessibility. Feel the stability of its 4-wheel independent suspension. You'll wonder why they didn't think of this one a long time ago.



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Take the wheel of a torsion-spring Chevy and you'll never be satisfied with an I-beam front-axle truck again. Not just because Chevrolet's ride is smoother and more comfortable. But because you come to realize the truck itself is taking less of a beating, the tires less abuse, and

They cruise over roads that make front-axle trucks creep!

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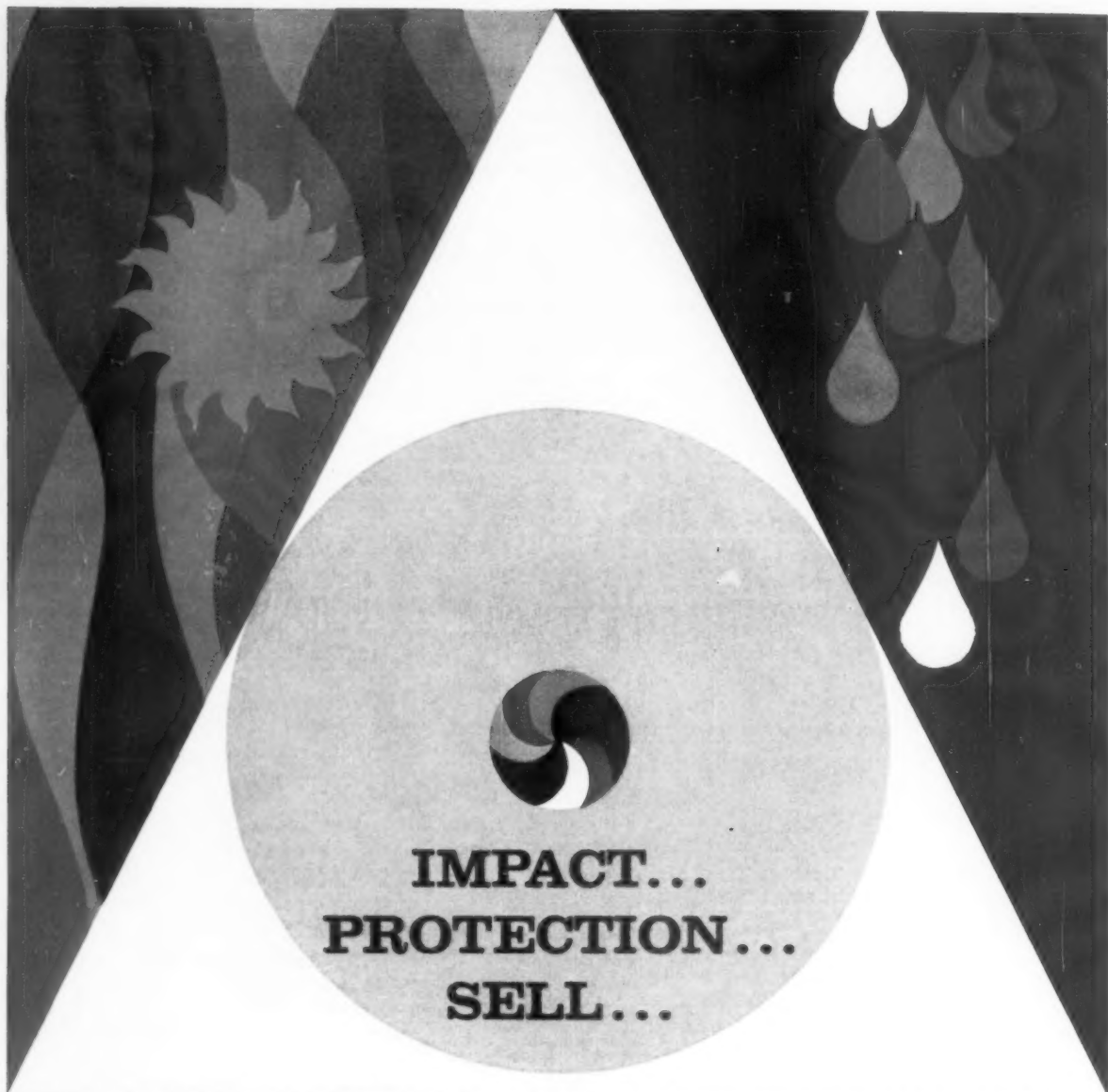


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PERSONAL BUSINESS

BUSINESS WEEK

NOV. 5, 1960



With winter coming, you may be counting on a daily dose of vitamin pills to help keep healthy. But they're no panacea for colds, aches, and pains—warns the American Medical Assn. And they shouldn't be used indiscriminately.

An overdose of vitamins can produce damaging side effects: loss of appetite, irritability, skin eruptions, liver trouble. These, of course, are extreme cases. But medical experts emphasize that you should:

- Use vitamins only with a doctor's advice.
- Check whether the pills are made by a reliable manufacturer—low-quality vitamins made here and abroad have been flooding the market recently in some areas.
- Follow the prescribed dosage—overdoses may be more than your system can absorb, and may prove damaging.

If you're a healthy person, says AMA, an average "adequate diet" generally will supply you with "all the nutrients" you need.

Many of the theories you've heard about vitamins are only half-truths.

Vitamins usually aren't necessary as an aid to dieting. A well-planned, balanced, low-calorie diet can contain all the required vitamins and minerals. If you are trying a "crash" diet—for instance, a steak and grapefruit routine—vitamin pills won't make up for the lack of a sensible balance.

Extra vitamins aren't needed by older people—assuming average good health. Research shows that. And there's no sound basis for thinking that added vitamins will head off the disabilities (physical or mental) that come later in life.

You won't feel more energetic just by taking vitamins—they don't make up for lost sleep or rid you of that "rundown" feeling. And you're on the wrong track if you think that mass-produced, packaged foods lack vitamins because of processing methods or depleted soil. The soil theory has been disproven. And food processors now put back most of the vitamins that may have been lost between farm and factory.

Where vitamins really help are in special cases.

Physicians often use single and multiple vitamins to compensate for a patient's inability to eat some necessary foods. For instance, an ulcer patient can take only a highly restricted, bland diet; an allergy sufferer may have to cut out everything from lettuce to strawberries.

Some chronic diseases of the gastrointestinal tract call for added vitamins—where the sufferer, for example, can't effectively absorb nutrients in his system. Liver ailments and certain hyperthyroid conditions block normal storage of vitamins, thus make supplements necessary.

Children and pregnant women often need extra units of vitamin D (bone builder) if they can't obtain their daily requirements from a quart of enriched milk. New research indicates that Vitamin C (ascorbic acid found especially in citrus fruits) may be needed to make certain drugs more effective.

If you do need vitamins, buy from a store that has a heavy turnover. Vitamins A, B1, and C may lose strength six to nine months after manufacture, according to some specialists. Loss is greatest with liquid form—pills and capsules are more stable.

Check with your doctor on "multiple" vitamins. This is a shotgun-pill

PERSONAL BUSINESS (Continued)

BUSINESS WEEK

NOV. 5, 1960

approach, and some specialists say it can be dangerous. Overdoses of folie acid and B12 are now known to be particularly risky.

—●—
If you want to bone up on what's happening in the race for outer space, note several new books just out:

- **The Manned Missile** tells the inside story of the projected 2,000-mph. B-70—what the Air Force calls the craft of the future. Lively, readable book by journalist Ed Rees gives a closeup of Pentagon planning and the problems of flying 80,000-ft. up (Duell, Sloan & Pearce, \$3.50).

- **The Space Guidebook** details Project Mercury, which may put one of seven U.S. astronauts into outer space by late 1961—and gives a pretty clear idea of his chances for survival; by William J. Weiser (Coward-McCann, \$4.75).

- **The Fascinating World of Astronomy** may inspire you to pursue this as a hobby. Book is non-technical, takes you on a journey to the moon and beyond the Milky Way; by Robert S. Richardson (McGraw-Hill, \$5.95).

- **The Space Encyclopaedia** covers more than 700 topics, boasts over 300 illustrations, has authoritative text written by leading British and American authors (Dutton, \$8.95).

—●—
Election night whoopee: You may want to ride out Tuesday's returns with a shaker of martinis at your side. Of course, a good martini is all a matter of personal taste with respect to proportions, coldness, and how much you dilute it with ice. But a new Consumer Reports survey offers the following pointers on the "Makings for a Martini."

"London" or "London Dry" gin isn't really very different—all gins are dry, in fact. If you want absolute dryness, the ultimate is not gin at all, but vodka (which lacks any trace of juniper berry flavor). Gin, incidentally, doesn't need aging. Golden-colored gin, aged in wood, looks different, but tastes almost like water-white gin.

Some gins have a richer botanical flavor—or greater ginniness. Two brands rated as extra ginny by CR's five-man panel of experts: British Ambassador and Hiram Walker, with British Lamplighter and Guckenheim as runnersup. British Seagers and two American gins—Seagram's Golden and Canada Dry—rate medium in ginniness. Beefeater, too, is medium, but highly distinctive (four of the five experts preferred it above all other brands). If you like a plain, unginny gin, try Coates Plymouth.

As for vermouth, CR advises: Buy what you like best—low-priced or high-priced, domestic or imported. Most brands are good—it's entirely a matter of taste.

—●—
Omnibus: New York's Lincoln Center for the Performing Arts is launching a Seat Endowment Campaign—\$1,000 will endow a seat in any of the Center's six auditoriums (10 Columbus Circle, New York 19) . . . Broadway's experimental 7:30 curtain on Wednesdays has gone back to 8:30-8:40 . . . Next year taxpayers 65 years or older must file a special form to claim larger-than-usual medical deductions; additional form also needed by those paying medical bills of elderly dependents . . . Search is on for old Civil War records and mementos; Centennial commissions throughout the country seek diaries, letters, newspapers and other items still undiscovered.



In power...room...comfort...economy the hot fleet topic is the new Tempest!

Here's the new-size fleet car that makes real sense . . . that overcomes the drawbacks of the compacts.

The Tempest's Trophy 4 is ready, eager and able to take on the sixes. There's no wait for response; it takes steep hills in easy high-gear stride. You get where you're going right along with the big ones.

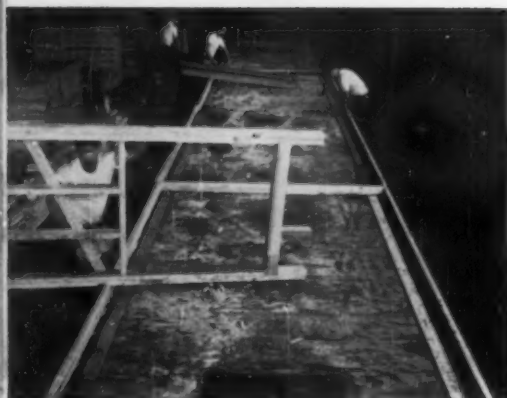
The Tempest's sensible size does away with driver cramp. There's stretch-out room for six (practically flat floor); more head-room, leg-room, elbow-room, hip-room; trunk space that's ample and usable.

The Tempest cuts down travel fatigue as no compact can. Front engine/rear transmission gives the stability and all-weather traction of 50-50 balance. Wide-Track design, 112-inch wheelbase and coil springs at all four wheels cushion the rough routes. Visibility is greater; there's no hemmed-in feeling.

Tempest economy starts with its slanted 4-cylinder power plant that outperforms the sixes on less gas. Every 100 miles, Tempest's big 15" wheels turn thousands of times less than 13" compact wheels. Long tire life. Many engine parts are interchangeable with Pontiac's Trophy V-8. Less repair costs and down-time. Tempest is built side by side with Pontiac. You can be sure its quality will pay off at trade-in time. First cost is less than most commonly used sixes.

See your Pontiac dealer for more details about the economy fleet car that makes real sense. Or write Fleet Sales Dept., Pontiac Motor Division, Pontiac 11, Mich.

TEMPEST THE ECONOMY FLEET CAR
WITH PONTIAC PRESTIGE



COMPANIES

Little Houses Bring Big

E. E. Kurtz, president and chairman of Inland Homes Corp., has a set of file cards in the top drawer of his desk. Each card covers a competitor, past or present, in the prefabricated house manufacturing field. It tells how that firm is doing or lists the reasons it went out of business.

According to the cards, the house manufacturers are having a bad year. But Kurtz smiles as he leafs through them because Inland is having its best year ever in both sales and profits.

Kurtz explains his competitors' predicament with a slogan: "If you want to stay little, build big houses." Inland, he feels, is growing fast because it builds little houses.

• **Change to Littleness**—Kurtz downgraded his houses in 1958. After a particularly dreary year in sales and even worse one in profits, he decided that the mass market for housing was the low-cost one where houses could be sold for less than \$14,000 including a lot. He tossed the full resources of the

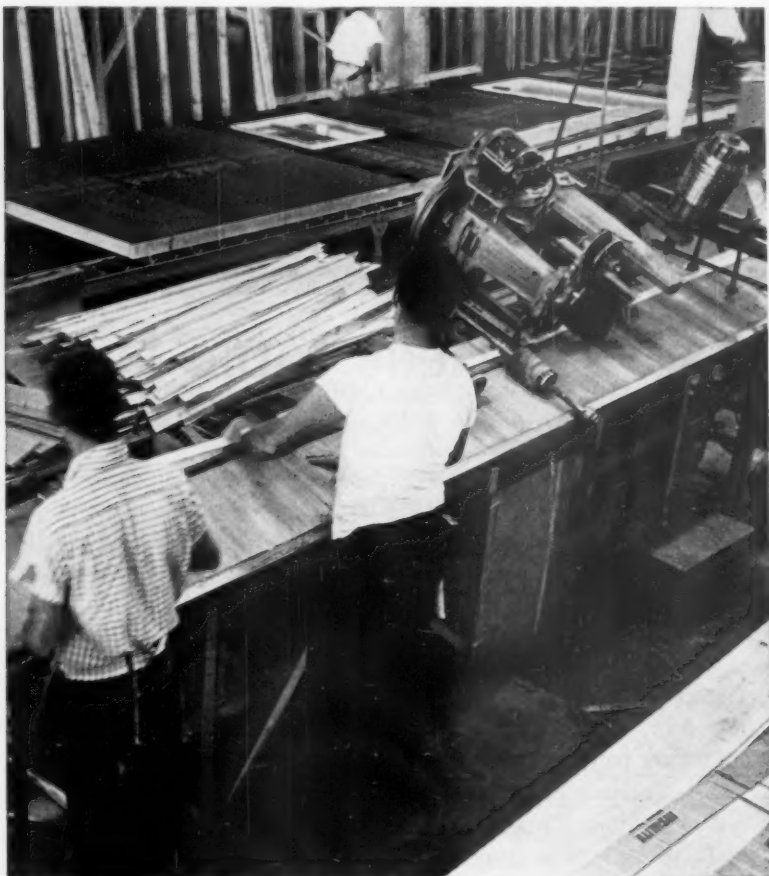
six-year-old company into building the smaller units.

He did this in spite of a lot of advice. Builders in most areas were pleading for bigger houses with extra frills such as air conditioners. Shelter magazines were advising that "houses must be upgraded."

Kurtz remained unconvinced and decided to try it his way. He quoted projected statistics on new families and on incomes to support his contention that builders were pricing themselves out of the market.

• **Market Potential**—Outguessing the market on the size of homes wasn't a new experience for Kurtz. He and a co-worker, Roger Thyer, now vice-president of research and development and treasurer of Inland, founded the company in 1952 when Kurtz thought he had some good ideas on the market for prefabricated houses.

Inland is headquartered at Piqua, Ohio, a small community just north of Dayton. Kurtz says so far as he knows



ASSEMBLY line methods and special equipment such as automatic shingle stapling machine (above) are keys to Inland Homes' success.

g Profits to Prefab Maker

it is the only headquarters of a company ever picked off a map. The Inland head felt that southern Ohio and surrounding areas were ripe for prefabricated sales. He picked Piqua off the map as near the center of the area his market studies showed would be best.

Both Kurtz and Thyer left Thyer Manufacturing Corp., a Toledo prefab maker run by Thyer's family, to go out on their own. They leased a building in Piqua, which they still use for offices, and built their first plant in the same town in 1955.

Kurtz still continues his policy of picking towns off the map. He feels the optimum shipping distance for his houses is 200 miles. So, when Inland wanted to expand, he looked at the map and built the new plant in 1956 at Hanover, Pa., just 400 miles from Piqua. In 1959, Kurtz built the company's third plant at Clinton, Iowa, just 400 miles from Piqua in the other direction.

• **Getting Builders**—Kurtz was right in



E. E. KURTZ, president of Inland Homes Corp., stands before the Matador, the company's new model for 1961. It is designed to sell for \$12,000, including a lot.



WALL sections are stacked before being loaded onto waiting trucks. Houses are shipped out as soon as they come off the line.



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The Cleanliness Index dramatically demonstrates the wide gap in the cleanliness of spirit masters — ranging from the grime and aggravation of ordinary undercoated purple masters to the immaculate performance of Columbia's supercoated, super clean Marathon Blue Ready-Masters.

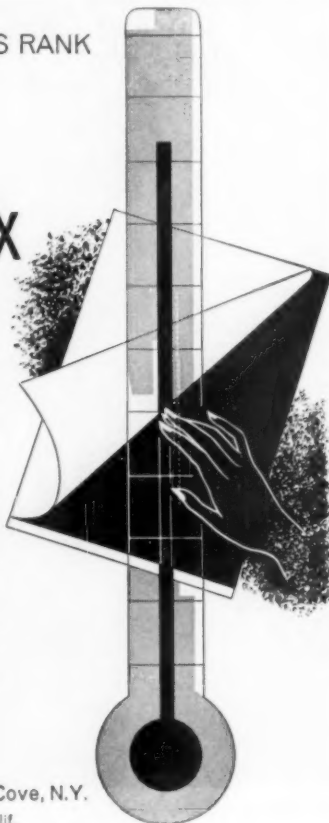
Columbia salesmen are anxious to demonstrate these differences at no cost or obligation to you. They'll also be happy to advise the correct master for a job that's particularly troublesome to you. Write for a free demonstration of the Cleanliness Index. Ready-Master Division, Columbia Ribbon & Carbon Mfg. Co., Inc., 10711 Herb Hill Road, Glen Cove, N.Y.

MARATHON BLUE READY-MASTERS

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Columbia Ribbon & Carbon Pacific Inc., Duarte, Calif.



his market prediction in 1952 and the Piqua operation of Inland thrived, as have the two new plants since. That is, Piqua thrived until the fall-off in 1958 that led to the change to smaller units.

When Inland shifted to the low-cost houses, some of his builders rebelled. According to Kurtz, many builders of housing developments look upon the areas as monuments to themselves. Some of them just didn't feel that low-cost houses were a proper monument and they preferred putting up the larger units.

Kurtz wasn't sorry to see them go. He wants only builders who are interested in building, promoting, and selling Inland's home. And he wants them big enough and in markets where they can sell at least 100 houses a year.

Some of the remaining builders adapted readily to Inland's new philosophy, and regional sales managers for the company knew of other builders they felt would tie-in with the low-cost market.

But a surprise came from some non-builders who came in off the streets. A few businessmen with no experience in the building industry had been impressed with potential building profits and asked Kurtz or his executives about the business. These men were checked by Inland. If they were in a good market area and had the basic backing and brains necessary, they were helped into business.

• **Teaching Builders**—The potential builders need training, but when educated have proved to be among the most successful in the Inland market. The nonprofessional builders are seldom interested in monuments to themselves. They want profit and listen readily to advice.

To educate the inexperienced and to push even the most experienced builder into productive markets and promotional efforts, the company has set up an elaborate series of aids.

First, Inland will check the proposed market for potential and advise on the selection of land. It even aids the uninitiated in the legal tangle of option forms and land purchases. On some occasions, Inland has protected a prospective purchaser by using its own name during early negotiations.

If the new builder needs money, either to finance his own purchases or as mortgage money for buyers, Inland is set up to help. When local banks or money sources take the mortgages, Inland is happy. But if a builder can't get mortgage money locally in an area where the market looks good to the firm, he can get it from Inland.

After Inland helps the neophyte find his land and sign it up, it begins to hand-feed him through the intricacies of selling houses. A promotional package on each new model, such as the



Broad smiles

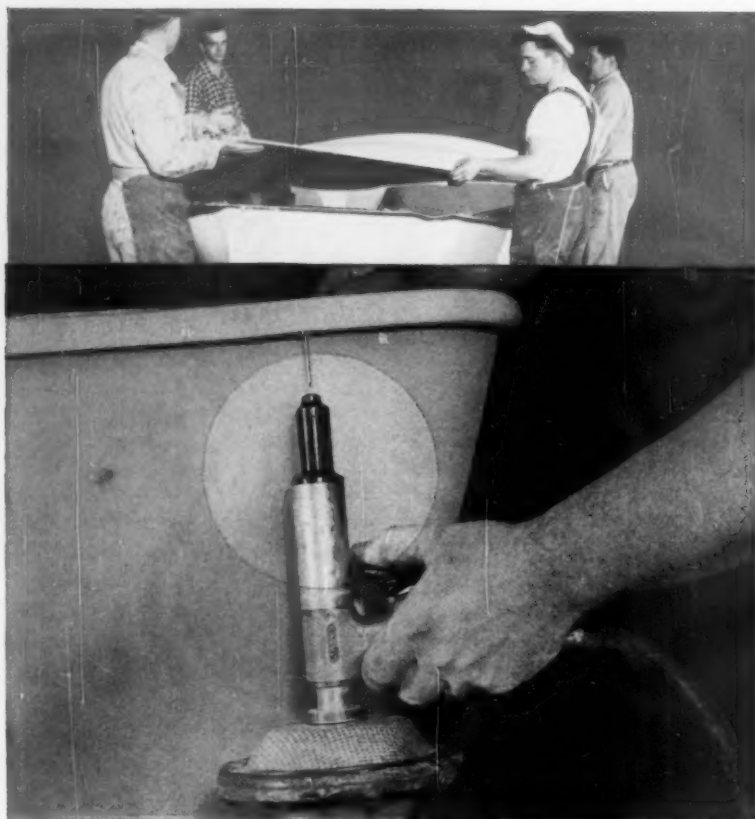
for

businessmen

Businessmen like to go where money is. More importantly, they like to go where money is managed in a businesslike way. That's why so many executives are showing such avid interest in the new business climate of New York State. Not only is New York now the number-one state in personal income and bank deposits, but the highly effective program of Governor Nelson Rockefeller and his "hard-hat" businessman's administration has also put the state's finances on a sound footing . . . through pay-as-you-go policies. ■ As a result, the state has been able to finance its vast school, highway and public-works programs, while offering reasonable tax rates, often less than those of nearby states. This kind of businesslike attitude toward money assures a bright future for any business setting up a new plant in New York State.

We'll compile a report tailored to your specific new plant needs. Write Commissioner Keith S. McHugh, Dept. of Commerce, Room 352, 112 State St., Albany 7, N. Y. (All contact between your office and ours will be kept *under our hat*.)

**GET UP TO DATE ON NEW YORK STATE...WHERE
THEY'RE TALKING THE BUSINESSMAN'S LANGUAGE**



UNITED "POP"® RIVETS SHRINK Fastening Manhours 66% on Fiberglass Boats



Looking for a better way to fasten your products? Look to United "POP" Rivets. The O'Day Corporation of Fall River, Mass., did and shrunk fastening manhours by 66% ... drove handling costs way down ... put an end to production bottlenecks.

Thanks to the speedy, one-man application of "POP" Rivets, resin fracture (coating of polyester resin to fiberglass may set too fast and become brittle) was eliminated. It's a simple 1-2-3 operation. Deck is clamped to hull ... holes drilled ... "POP" Rivets inserted, set and fastened from one side with a power gun ... all in a matter of minutes!

There's no end to the cost and labor savings "POP" Rivets are providing on all kinds of materials in appliances, air-conditioning equipment, furniture, truck and trailer bodies, pre-fab buildings and hundreds of other products.

Why not learn how "POP" Rivets can bring quick solutions to your fastening problems; whether plastics to plastics, metals to plastics, metals to metals or any other combination you have in mind. Call or write for your copy of our new catalog.

"POP" Rivet User Reports ... Yours for the Asking! Send today for this collection of "POP" Field Reports. Combined photo-fact sheets show use of "POP" Rivets in applications ranging from aircraft to submarines, from furniture to curtain walls.

Worth having also is the new RIVETING AND ASSEMBLY IDEAS Booklet. Chock-full of "POP" Rivet facts, news of available literature, new product announcements. Write to address below.



**"POP" RIVET DIVISION
UNITED SHOE MACHINERY CORPORATION**
11311 River Road, Shelton, Conn.



Matador, Inland's design for 1961, tells how to landscape and light the model house. It also gives advice on promotional news releases and advertising and even sets a time schedule for the builder to follow.

The company sells the builder, on terms if necessary, an inside package for decorating the house that includes a floor plan on where to place the furniture. The package includes everything from bathroom towels to a doll for the baby's crib, pictures for the wall, and a scrabble set for the table in the family room.

• **Making Money**—Some of Inland's competition isn't yet convinced that the system works. Several of the companies are still announcing plans to upgrade their products.

While they upgrade, Kurtz has taken one new step down. This year's model, the Matador, is designed to sell for \$12,000 including a lot. But late this summer, the Federal Housing Administration amended regulations to authorize extra charges on FHA-insured mortgages for \$9,000 or less. This, Kurtz and Inland felt, opened a market that even the new model couldn't meet.

Within 48 hours after official release of the FHA change in late August, Inland introduced its Economy Vanguard, designed to conform with FHA regulations and sell for \$8,800 including a \$2,000 lot.

Thus, this fall Inland has two major models for its builders, and some competitors are probably wondering how the firm can make any profit on houses selling at these prices.

The answer isn't startling. It's just that good production practices are followed, carefully checked, and improved when practical. All construction is standardized, with specifications even for the number of nails per house and where each is to be put.

Kurtz keeps inventories to a minimum, storing only materials like window frames where quantity purchase is more economical. Lumber is taken right from railroad boxcars and fed to the production line. Houses are moved directly from the line to waiting trucks. Shipping is planned so that no houses remain in the plant Friday night after work.

Since more than half of the house packages are shipped to dealers for cash on delivery, Kurtz has what he jokingly calls his "money tree." He can move lumber from a railroad car, build a house, ship it, and get paid for it before he gets his lumber bill—thus taking advantage of cash discounts on the lumber.

In its eight years, Inland has never missed a discount on a bill, and Kurtz says, "When you're doing business at our prices, you depend on that discount for your profit." **END**



Here's ultra-modern space heating with all the cheer of an old-fashioned hearth. It's one of Locke Stove Company's famous "Warm Morning" gas heaters.

Locke Stove's long experience has uncovered a strong preference in the home market for *warmth made visible*. Realizing that comfort is a matter of emotion as well as temperature, they design the glow of a fireplace right into this handsome appliance. All it takes is a pane of glass . . . Feurex® heat resistant glass by American-Saint Gobain.

Feurex exposes the cheerful pattern of glowing ceramic radiants . . . transmits their heat output . . . and contributes to the unit's safety.

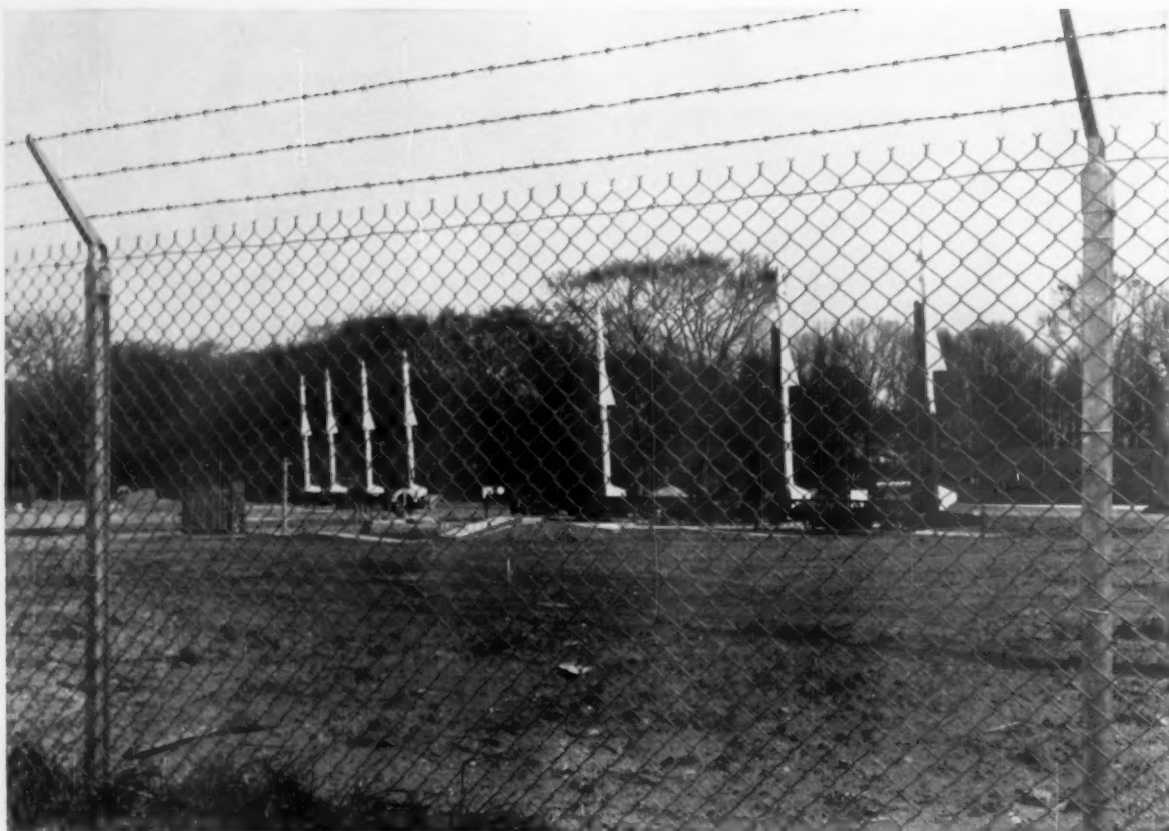
Feurex is just one of hundreds of specialized glass products A-SG makes available for the solution of functional design problems. Bear this in mind whenever such problems arise in *your* business. For more information, call the American-Saint Gobain district office nearest you . . . or write for our new bulletin: "Special Glasses and Products."



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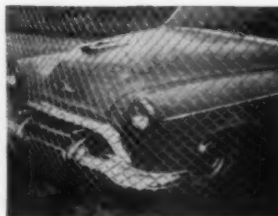


What guards the guards? You're looking at seven Ajax anti-aircraft missiles at a Nike base near Cleveland. As you see them, they're worth \$175,000 and that's only a small fraction of the total investment in the Nike site. As usual, USS Cyclone Fence was erected to guard the missiles. Cyclone is the most widely used property protection fence in the nation because, for one thing, it is *galvanized after weaving*. The Cyclone-developed "H" post is the strongest available, and the easiest to inspect and maintain. Equally important: Cyclone has full-time erection crews who know how to install a fence so that it stays tight and straight for decades.

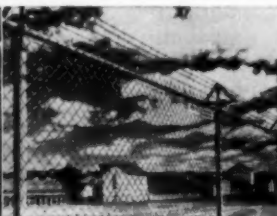
If you'd like the proven protection of Cyclone Fence, see your local Cyclone representative listed in the Yellow Pages of your 'phone book or write: American Steel & Wire, Dept. 0453, 614 Superior Ave., N.W., Cleveland 13, O.

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Where security counts, count on  Cyclone Fence



Tough. A 4,000-lb. car traveling 35 miles an hour couldn't take this section of Cyclone Chain Link Fence down. That's real ruggedness—typical of all Cyclone Fence.



Long-lasting. Here's a Cyclone steel fence that's been up 25 years. It's still strong, still doing the job it's designed for—and it's needed very little maintenance.



Fire-resistant. Even under direct heat, Cyclone Fence remains undamaged. Here's dramatic proof that Cyclone provides unmatched protection for your plant or grounds.



Corrosion-resistant. Standing a mere 45 feet from the ocean, this fence has resisted salt corrosion for 10 years. Cyclone's heavy coating of zinc wards off corrosion damage.



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Division of
United States Steel**

Cyclone sales offices coast to coast



For strength, safety, economy.

New Study of Taxes and Spending

Backed by Ford Foundation and Brookings Institution, it may be the broadest and deepest yet. The aim: to fill a need for basic knowledge, rather than to make recommendations.

Ever since it became obvious in the mid-1950s that high government spending and high tax rates were going to be a way of life as long as the cold war lasts, lawmakers, government administrators, and economists have been wondering what this would mean to the economy over the long pull.

Last week the Brookings Institution and the Ford Foundation announced an ambitious five-year study aimed at supplying some answers. The Ford Foundation is providing the money—\$750,000 in an initial grant, which is expected to grow—and Brookings will carry out the research program into both spending and taxing at all levels of government. Joseph A. Pechman, who has been the chief fiscal economist for the Committee for Economic Development, is moving over to Brookings this week as executive director of the study.

• Pechman Career—Now 42 years old, Pechman has been working on the economics of taxation for 22 years. In 1938, as a fledgling graduate student at the University of Wisconsin, Pechman became assistant director of the Income Tax Study of the Wisconsin Tax Commission. He was at the Treasury as a top fiscal adviser during the Truman years, took off 1953-54 to teach at MIT, then went back to Washington to serve under Arthur Burns at the Council of Economic Advisers in 1954-56, before joining CED.

Pechman knows the U. S. tax system backward, forward, and upside down. He's unlikely to get trapped on any of the explosive tax issues—he knows his way around those mine fields as well as any man in the country, and he's used to being shot at from all sides on the hot tax issues—within CED, in government agencies, and on the Hill.

• Producing Only Questions—Congress has conducted three massive inquiries into fiscal policy in recent years: a study of taxes in 1955 by the Joint Economic Committee, a study of spending by the same committee in 1957, and a second look at taxes by the Ways & Means Committee last year.

These were not casual hearings in the tradition of most Congressional committees. They were based on scores of background papers by leading scholars in the field, followed by exhaustive public hearings.

But these inquiries raised more questions than they answered, and posed more long-range policy considerations than Congress was ready to face up to. The scholarly background papers generally broke no new ground; time after time, the inquiries bumped up against a lack of fundamental research.

• Looking for Answers—Pechman's job will be to fill in as many of the empty places as possible, thus to set the stage for new tax and spending policies. Questions like these will be considered in drawing up the research assignments:

- Is the tax burden—the total of federal, state, and local levies—restraining growth, and, if so, in exactly what areas?

- Are the automatic stabilizers built into the present tax structure doing all they should to counter the swings of the business cycle?

- Is spending hopelessly cumbersome as a contracyclical device, or can programs be expanded and contracted to help keep the economy on an even course?

- If spending is going to be used contracyclically, what would be the most useful types of program? For example: Is the familiar concept of a shelf of ready-to-go public works outmoded? Should flexible unemployment compensation be used instead?

- Who really pays the corporation income tax—the stockholder or the customer?

- How can you decide whether any given job should be done privately or publicly?

- How can you make rational choices—not purely political ones—among government investment projects?

- What are the inequities in our tax system? How can they be minimized?

- **Large Order**—The broad purpose of the program, in the words of Robert D. Calkins, Brookings' president, is to "encourage better policymaking through research and a better understanding of the economic effects of taxes and government spending."

The project is in two parts. First will be the research phase, which will produce technical monographs on a wide range of problems. This will be followed by a series of books and pamphlets aimed at the interested layman, legis-



JOSEPH PECHMAN, executive director of the new study, moves over from CED staff.

lators, and government administrators. In these, the findings will be interpreted and applied to specific areas of policymaking. They will be followed by public meetings sponsored by Brookings.

• Advisory Board—Aiding Pechman and the Brookings staff in drawing up the program will be an advisory committee organized by Brookings for the purpose. Calkins will be chairman of this National Committee on Government Finance. Other members have been appointed:

Elliott V. Bell, editor and publisher of *BUSINESS WEEK*; director and chairman of executive committee, McGraw-Hill Publishing Co., Inc.

Howard R. Bowen, president, Grinnell College, Grinnell, Iowa.

Marion B. Folsom, director and management adviser, Eastman Kodak Co.

Henry H. Fowler, senior member of Fowler, Leva, Hawes & Symington, Washington.

Erwin Nathaniel Griswold, dean, Law School, Harvard University.

Alvin H. Hansen, emeritus professor of political economy, Harvard University.

George W. Mitchell, vice-president, Federal Reserve Bank of Chicago.

Don K. Price, dean, Graduate School of Public Administration, Harvard University.

Jacob Viner, professor of economics, Princeton University.

William C. Warren, dean, Columbia University Law School.

Herman B. Wells, president, Indiana University.

Alfred H. Williams, formerly presi-



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... breakthroughs in economics have in the past come not from mass projects but from isolated thinkers...

(STORY on page 151)

dent, Federal Reserve Bank of Philadelphia.

It is possible that other members will be added later.

• **Collective Effort**—Important breakthroughs in economics have in the past come not from mass projects but from isolated thinkers. That's the way it was with Keynes' ideas on contracyclical policy and Leontief's input-output theory. But that was once true also in the natural sciences, where collaborative, organized, systematized research has shown that it can yield brilliant results.

In a sense, Brookings is going to test whether enough money and enough brains can crack the fundamental riddles in the fiscal area. Pechman means to mobilize every outstanding public finance man and theoretical economist he can lay hands on, to tackle critical parts of the problem. Not all these men will be brought under one roof. They will usually work—individually or in groups—at their own universities, with adequate funds and staffs to stand behind them.

• **Effect of Decision**—The task of research in this area is to figure out the real economic effects of any government spending or taxing decision. Should \$100-million be put into a power dam, into a highway program, or into more school construction?

This is, on the face of it, a decision just like that of a corporation in considering whether to put its money into a new plant or into a major research program. The corporation presumably would base its decision on estimates of rates of return on investment. So, too, should the government.

But the government's problem is that it is not only trying to get the greatest return on investment—it may also be trying to solve certain "welfare" problems (the welfare of the farmers near the power dam, the commuters near the highway, or the parents and children in the typical, down-at-the-heels school district).

• **Finding the Best**—Is there any way—beyond the pulls and tugs of political forces—to solve both the return-on-investment and welfare problems to the best advantage? Such a way would have to be one that actually can be applied—with all the relevant data—to immediate problems.

This is the kind of riddle that fundamental research on government expenditures will have to solve. And the

riddles will multiply swiftly on the tax side as well.

For instance, both Kennedy and Nixon are committed to liberalizing depreciation allowances on capital investment so as to stimulate growth. But there are dozens of ways in which the depreciation laws could be changed—which way is likely to yield the greatest results?

• **Complementary**—The project will be complementary, in the broad sense, to another study financed by the Ford Foundation—that of the Commission on Money & Credit. Between the two, just about every facet of government financial operations will come under review. There will likely be some overlapping, Brookings officials believe.

One of the most critical problems ahead is the interrelationship between fiscal and monetary policy—and the prime problem of which should play the paramount role in the government's handling of the economy.

In recent years, taxes have been frozen by a balance of political forces. But the growth problems of the economy suggest that the fiscal jam soon must be broken. Among economists today, it is almost a cliché that fiscal policy is more potent than monetary policy—that, if the U.S. is to be subject to the pressures of the balance of payments that inhibit the use of monetary policy, the manipulation of taxes or expenditures must become the government's principal stabilization weapon.

• **Fact-Finding**—There's no expectation that any study, however competent, can write the policy conclusions—in effect, the legislation—that stems from its analysis. The project isn't being directed at a set of recommendations. Instead the stress is going to be on channeling the research findings to lawmakers, public officials, and to organizations that are interested in the subject.

Some of the government finance studies will be made by Brookings' own staff of economists under the direction of Richard Goode, an expert on the corporation tax. Most of it, however, will be farmed out by Pechman to scholars on university faculties and to members of other research groups. A particular search will be made for ideas from younger men.

The study will enlist the support not only of economists but also of political scientists, public administrators, lawyers, accountants, and other experts. The study will also draw on the advice of a top-level Advisory Committee of 10 to 20 outstanding experts in public finance.

The Brookings people feel that they couldn't have tackled a more vital subject; taxes equal about one-fourth of the U.S. national income, and government activity is still growing. **END**



HER SUPERMARKET CART...

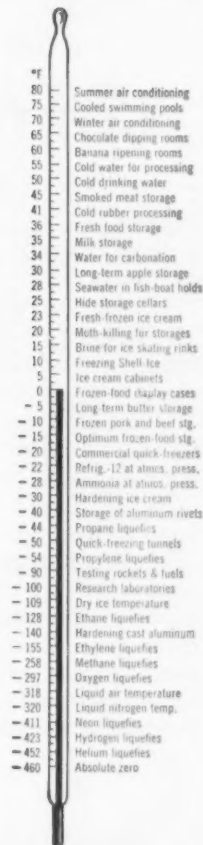


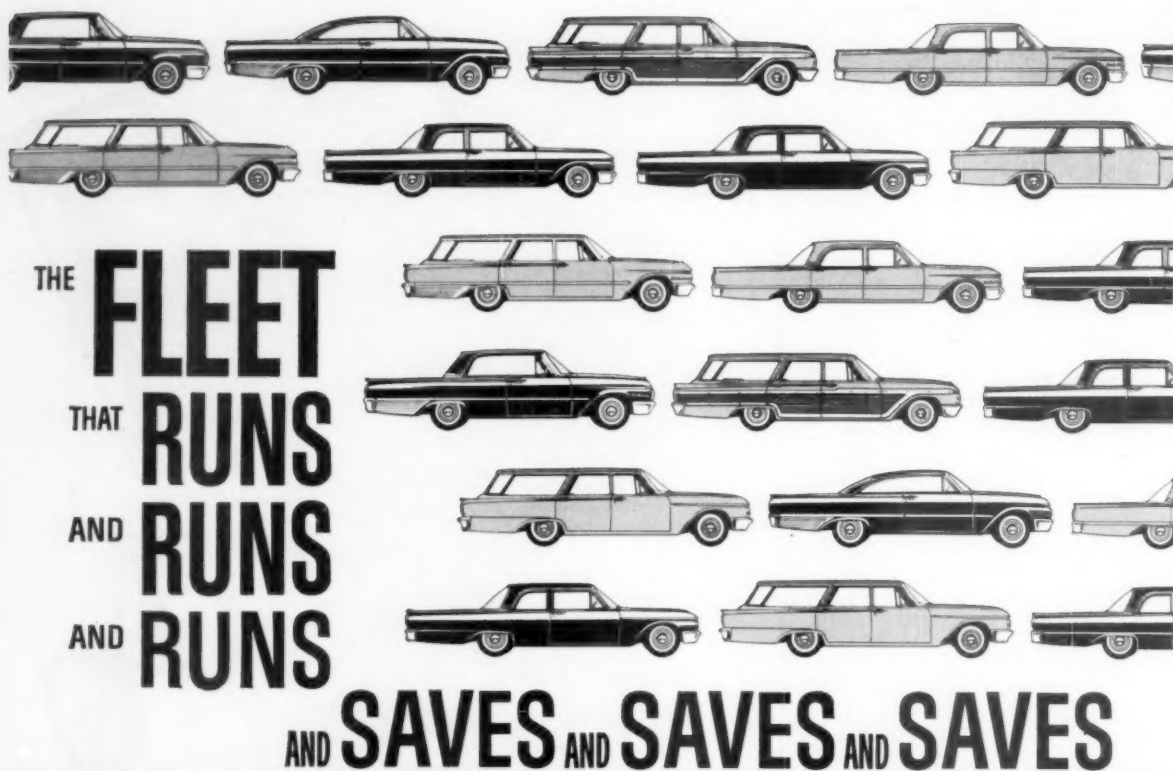
WHAT'S YOUR PRODUCT? Fish or fowl, meat or margarine, pizza or pastry, fruit or vegetable... *whatever* it is, Frick has the proper equipment to cool, freeze or store it, right up to the moment it's dropped into the customer's supermarket cart.

For example, the Kroger Company's food distribution center at Solon, Ohio, is Frick-equipped. Serving 76 Company stores, the meat cooler holds 1400 sides of beef. Other coolers accommodate sausage, pork, smoked meats, poultry and bananas. Frozen foods of all types are stored in two 280 by 100 ft. freezer rooms kept at zero.

If *your* product requires refrigeration or freezing, we'd like to talk with you. A Frick engineer will be glad to discuss your problems. No obligation at all: write

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The 1961 Ford is beautifully built to take care of itself . . .
to cut down on downtime . . . to lift your budget at trade-in time . . .
to keep your business Fleet rolling all the time!

Never before in history has a car been offered to Fleet buyers with such confidence as the 1961 Ford.

In the first place, Ford is the car that is built to take care of itself. It lubricates its own chassis . . . it cleans its own oil . . . it adjusts its own brakes . . . it protects its own mufflers, its body metal and finish.

But that's not the half of it! Ford Dealers take such pride in the quality, design and durability of the 1961 Ford that they led the industry in extending their warranty on their 1961 cars to 12,000 miles or one year, whichever comes first. Your Ford Dealer has the details. Let your Ford Dealer

show you this warranty and explain the advantages.

And there's more news! Steering is 25% easier. Trunk space is more accessible, provides more usable room. There are fleet-size interiors, too. Front seats have *thick* foam padding. Passengers are snugly insulated against sound and weather. And, in line with Ford's policy of building cars to better accommodate people, doors are wide . . . entry is easy.

No wonder so many business men are putting their money on the '61 Ford. Its potentially high resale value and unique, new saving ways will mean dollars-and-cents benefits to Fleet owners.

PREFIGURE YOUR FLEET SAVINGS with these '61 Ford takes-care-of-itself features

Chassis lubrication. The '61 Ford will normally go 30,000 miles without a chassis lubrication. Match that against your present lubrication costs.

Oil changes. You can plan on changing oil only at 4,000-mile intervals.

Brake adjustments. Cross this one off your list altogether. New Ford brakes mechanically adjust themselves automatically.

Muffler replacements. Divide the usual muffler expense by three. Ford mufflers are double-wrapped and aluminized and will normally last three times as long as ordinary mufflers.

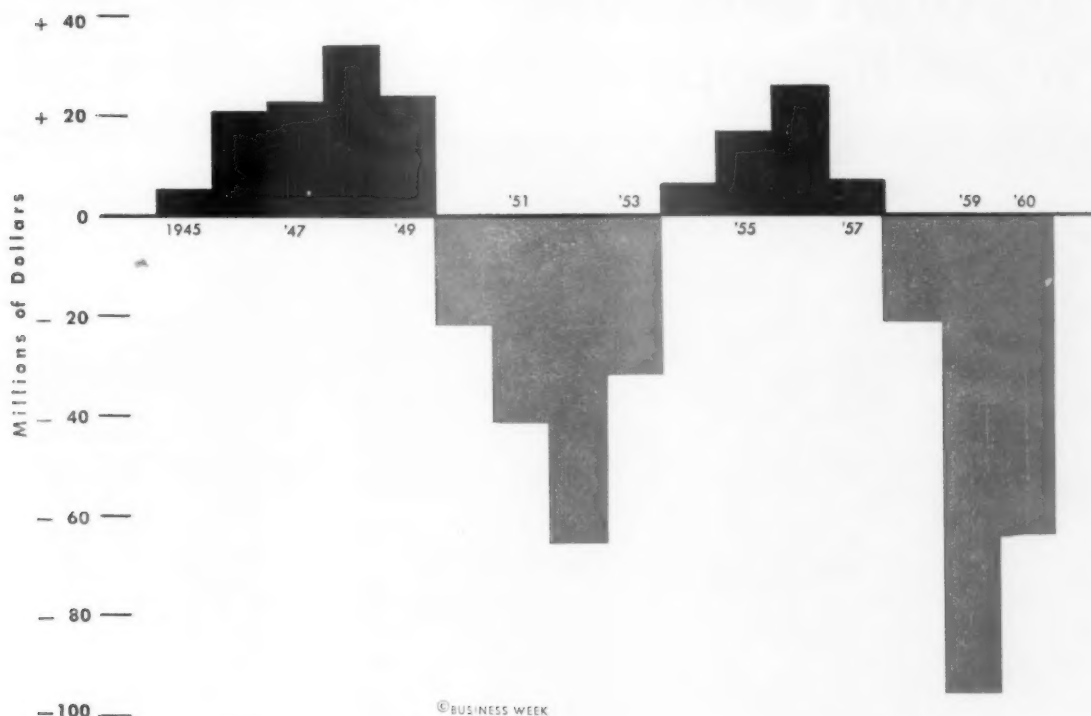
Body corrosion. All vital underbody parts are specially processed to resist rust and corrosion . . . even to galvanizing the body panel beneath the doors.

Wax jobs. As an extra dividend, Ford's Diamond Lustre Finish *never* needs waxing.

Beautifully built for economy and lasting value . . . **'61 FORD**

REGIONS

Michigan's general fund has violent swings from surpluses to deficits, so next Tuesday's election is focusing on...



Coping With the Tax Dilemma

Few states this fall have received more attention from politicians than Michigan. The Presidential nominees have been popping in and out as if it were a quick-lunch counter, and even Pres. Eisenhower came to Detroit for a major defense of his economic policies. Yet when Michigan voters go to the polls on Tuesday, they will be giving as much attention to their state constitution as to political candidates.

After 12 years of watching their Democratic Gov. G. Mennen Williams and their Republican-controlled legislature argue over state spending and taxing, the voters will have their say. In the way they vote on two proposed constitutional amendments, they could determine how the state can get out of its fiscal jam (chart).

• **Complicated Problem**—The fiscal question before governor and legislature has been more complicated than simply matching income and outgo. It is complicated by constitutional amendments and statutes that tie their hands by earmarking most of the state's tax income for certain purposes and by limiting the sales tax rate to 3%.

The governor has proposed levying an income tax. The Republicans in charge of the legislature have resisted, advocating instead a higher sales tax. As the two argued over the "big" tax—and agreed to minor ones for the interim—the state's general fund swung from surplus to deficit.

• **The Choice**—Now the people will make their feelings known by how they vote on the two proposed amendments:

- One would permit the sales tax to rise to 4%.

- The other would put on next April's ballot the question of whether the people want a convention to rewrite the 52-year-old, oft-amended state constitution. A convention in which Democrats are strong could write a constitution that would weaken Republican influence in the legislature by redistributing its seats.

On the sales tax amendment, the legislature would interpret a "yes" vote as a mandate for a 4% sales tax, and a "no" vote as a mandate for an income tax, a tax which is levied by 32 other states.

But regardless of the vote on the

sales tax amendment, the state government still would be faced with the restrictive earmarking of the tax revenues that limits the general fund to one-third of the state's total income from taxes. And it is from the general fund that the state must finance such general purpose programs as universities, mental health, public welfare, and the operation of the state government.

Michigan is one of 35 states that levy a general sales tax. Of the 29 that had such a levy on the books in 1950, it is one of 15 that has not raised its rates since then. But 10 of these 15 have individual income taxes to help beef up revenues. Only five have no such broad-based tax, and of these none dedicates its income from that lone broad-based tax to the extent that Michigan does.

Although it is common for states to set aside certain taxes for certain purposes—gasoline taxes for highways, for example—Michigan stands out in the way in which it earmarks so much of its productive sales tax for local governments. As a consequence, local governments in Michigan lean more on the

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state treasury and less on their own resources than do those in other states.

• **How It Began**—Michigan's unique situation dates back to 1946. After the local government and school interests had taken a nibble out of state funds, they put over their big coup. It took the form of a constitutional amendment that took two whopping bites out of the sales tax, which had been levied at 3% since its adoption during the depression. One-sixth was allocated to cities, villages and townships, and about 60% to schools. The state was left with a piddling fraction.

There was nothing radical in a state making grants to its local school systems, but the method Michigan used was different. Instead of distributing the money on a per capita basis as needed, the amendment based the grants on the amount the state had available—whether needed or not. If such grants were based on the local government's needs, the state might have been able to save for a rainy day.

Deprived of most sales tax revenue through the new amendment, the general fund suffered still further setbacks. Just as the state's population was booming and the need for state expenditures grew, the legislature appropriated \$50-million out of the general fund into the veterans trust fund, introduced a cigarette tax of which it gave the general fund only three-fifths. When the recession came in 1948-49, the general fund slipped into a deficit.

By 1953, the legislature recognized something had to be done. It levied a business activities tax (BAT) and assigned it all to the general fund. The fund was back in the black again.

• **New Allocation**—In 1954, the general fund took it on the chin once more. The people adopted a constitutional amendment that increased the school district share of the sales tax to two-thirds from 60%, kept the allocation for municipalities at one-sixth. And it built the 3% sales-tax limit into the constitution—a unique move that made it more difficult to raise the rate.

Little has been done since then to build up the general fund. In 1955, the business tax rate was raised. Last year, when the deficit had grown to impossible proportions—giving the state a reputation for not paying its salaries or its bills—the legislature passed a package of several tax measures and transferred \$40-million from the veterans fund to reduce the deficit. It tried to put a 1% use tax on top of the sales tax, but that was found unconstitutional.

• **New Hope**—This year, as the voters have been brought into the picture, new men have appeared on the political scene as well—raising hopes that some of the old bitterness will diminish. After an unprecedented six terms, Williams is not running again. Demo-

Annual Savings of \$521,000 to \$604,000 for a 400-ton per day paper mill!



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Other phases of the report analyze markets, labor, raw materials, taxes, industry trends — every factor pertinent to locating a mill at these profitable sites. Make sure your company is the one that capitalizes on this major competitive advantage. Write on company letterhead to H. P. Cotton, Assistant Vice President, Norfolk and Western Railway, Roanoke, Virginia.

MANY OTHER TYPES OF INDUSTRY can slash operating costs with plants in N&W territory. Fantus proves it in dollars and cents.

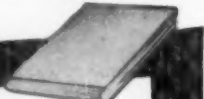


N&W

Nation's Going-est Railroad

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cratic Lieut. Gov. John B. Swainson and Republican Paul D. Bagwell, Michigan State Univ. scholarship director, are running to replace him.

Both Swainson and Bagwell agree on the need for tax revision. Swainson opposes the sales tax increase, as does labor, on grounds it is hardest on lower-income families. He has not said what he would recommend instead, except that he favors taxing on "ability to pay." While attacking Swainson for being vague, Bagwell himself has been criticized for inconsistency. Democrats say he first advocated an income tax, then a payroll tax, then the sales tax.

• **The Decisive Vote**—But it matters less which of the two wins on Tuesday than which way the people vote on the proposed amendments. In their vote on the sales tax amendment, they will give direction to the specific course of taxation they prefer—a higher sales tax or an income tax. In their vote on whether or not to put the question of revision of the constitution on the ballot next April, they may give support to those who want the whole framework of legislative representation changed.

• **Constitutional Question**—The objective of some who want a convention to rewrite the constitution is reapportionment of the legislature. As things stand now, 78 counties with 42.4% of the population elect 64.7% of the state's 34 senators. On the other hand, Wayne County, which includes Detroit, contains 34.2% of the state's population but has only 20.6% of the senatorial representation. Democrats, who are strong in Wayne County, claim this gives the rural counties, which are largely Republican, and conservative, a stronger voice in the Senate than they deserve.

Of course, not everyone wants reapportionment. There are Republicans who want to keep control of the legislature, but who—along with Democrats—want a new constitution to achieve other things: reduce the number of elective officials, raise the state's debt limit and local tax limits, and change the selection of Supreme Court justices.

With these and other interests conflicting, there is no clearcut partisan division in attitudes toward a convention. Gov. Williams and the Republican gubernatorial candidate, Bagwell, favor a convention. His Democratic opponent, Swainson, doesn't want a convention because he prefers to amend the old constitution. Republican leaders in western Michigan oppose a new constitution, too, but for another reason: They fear their control of the Senate might be in peril. Still another view is held by Gus Scholle, state AFL-CIO president, who wants to wait until he is sure the representation at a convention would be somewhat more to his liking. **END**



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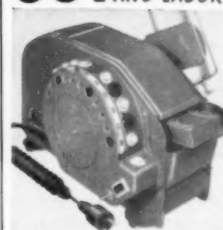
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How to Stop the Drain on Gold

The alarm bell that went off in the London gold market (BW—Oct. 29 '60, p. 23) at last seems to have convinced a number of public figures, both here and abroad, that the U.S. balance of payments problem has to be taken seriously. The sight of speculators paying \$40 an ounce for gold—\$5 over the U.S. Treasury's buying price—has produced several healthy reactions.

Not the least of these is Sen. Kennedy's strong statement pledging himself, if elected, to use all the resources of the President's office to defend the dollar. Since Vice-Pres. Nixon already has taken the same stand, this is one point on which both candidates agree, and the world is on notice that the next president will be pledged to a vigorous program to preserve the value of the dollar.

Kennedy and his advisers, however, were by no means the only ones to take heed of the warning.

The Treasury itself, after leaving its position unclear for several days, finally announced an important modification of its practice of selling gold to official monetary authorities solely for "legitimate monetary purposes." It declared that from now on it will supply gold to central banks, particularly the Bank of England, to curb speculative demand. This warns the speculators that if they try another raid on the dollar they may find the Treasury and the Bank of England moving in to punish them.

At the same time, the Bank of England has lowered its Bank Rate—the equivalent of our discount rate—from 6% to 5½%. Though this does not eliminate the spread that exists between rates in New York and in London, it is a step in that direction. Thus, it will help to check the flow of funds out of the U.S. seeking higher returns abroad.

The French central bank had already lowered its discount rate before the Bank of England acted. So far, the German central bank has not moved, but a reduction in its rate is expected. The direct result will be to take some of the pressure off the dollar, and the indirect result—which is perhaps even more important—will be to demonstrate that the monetary authorities of the free world are acting in concert to defend the dollar.

The Federal Reserve, on its part, has shown that it appreciates the need for minimizing the strain. Last week, when it took another step toward easing credit, it deliberately chose the method that would have the least impact on interest rates. It changed bank reserve requirements rather than create more reserves by open market operations.

All this has helped to take a good deal of the speculative fever out of the demand for gold. But none of the steps that have been taken by themselves provide a solution to the basic difficulty, which is the balance of payments problem. Rather, they are temporary measures that will give us time

to deal with the fundamental cause of the drain.

It is essential that we should waste no time in coming to grips with this. We have the cooperation of the foreign central banks now, but we cannot expect them to stick by us if they are not confident that we are taking effective action to deal with the long-run situation.

There are signs that the present Administration has already started moving in this direction. This week, the news came out that Pres. Eisenhower has written Chancellor Adenauer to say that something must be done about the gold drain. Clearly, he addressed his letter to the right man. The only long-run solution for the balance of payments problem is for our partners in the free world, especially West Germany, to assume a larger share of the burden of military expenses and aid to the underdeveloped countries that we have been carrying.

It will be the task of the next Administration, regardless of who wins the election, to push ahead with these negotiations. We and all our allies have far too great a stake in the financial stability of the free world to close our eyes to the dangers of the present situation.

Clearing the Air

Happily, both candidates are now firmly pledged to defend the dollar with all their power. Vice-Pres. Nixon has been on record on this point from the beginning. Sen. Kennedy's statement this week clears up the uncertainty as to how seriously he took the problem and how far he was prepared to go to work out a long-run solution (page 25).

It would have been helpful if Kennedy's statement had come somewhat earlier in the campaign. But the cogent, forceful, and unqualified argument that he made will undo much of the damage that the previous uncertainty had produced. It serves notice on the whole financial world—central bankers and speculators alike—that no matter who is elected, the full economic weight of this country will be thrown into the defense of its monetary standard.

In affirming his determination not to devalue under any circumstances, Kennedy has made an important shift away from the cheap money platform his party adopted at Los Angeles. He has dropped his assault on "high interest rates" and is emphasizing the need for "a balanced, flexible, and coordinated monetary policy," reinforced by fiscal policy, to achieve both higher levels of employment and price stability.

The shift is certainly in the right direction. It assures the world that the next occupant of the White House, regardless of party, will recognize the vital importance of working out policies that will reconcile internal growth and high-employment with our responsibilities as a leader of the free world.



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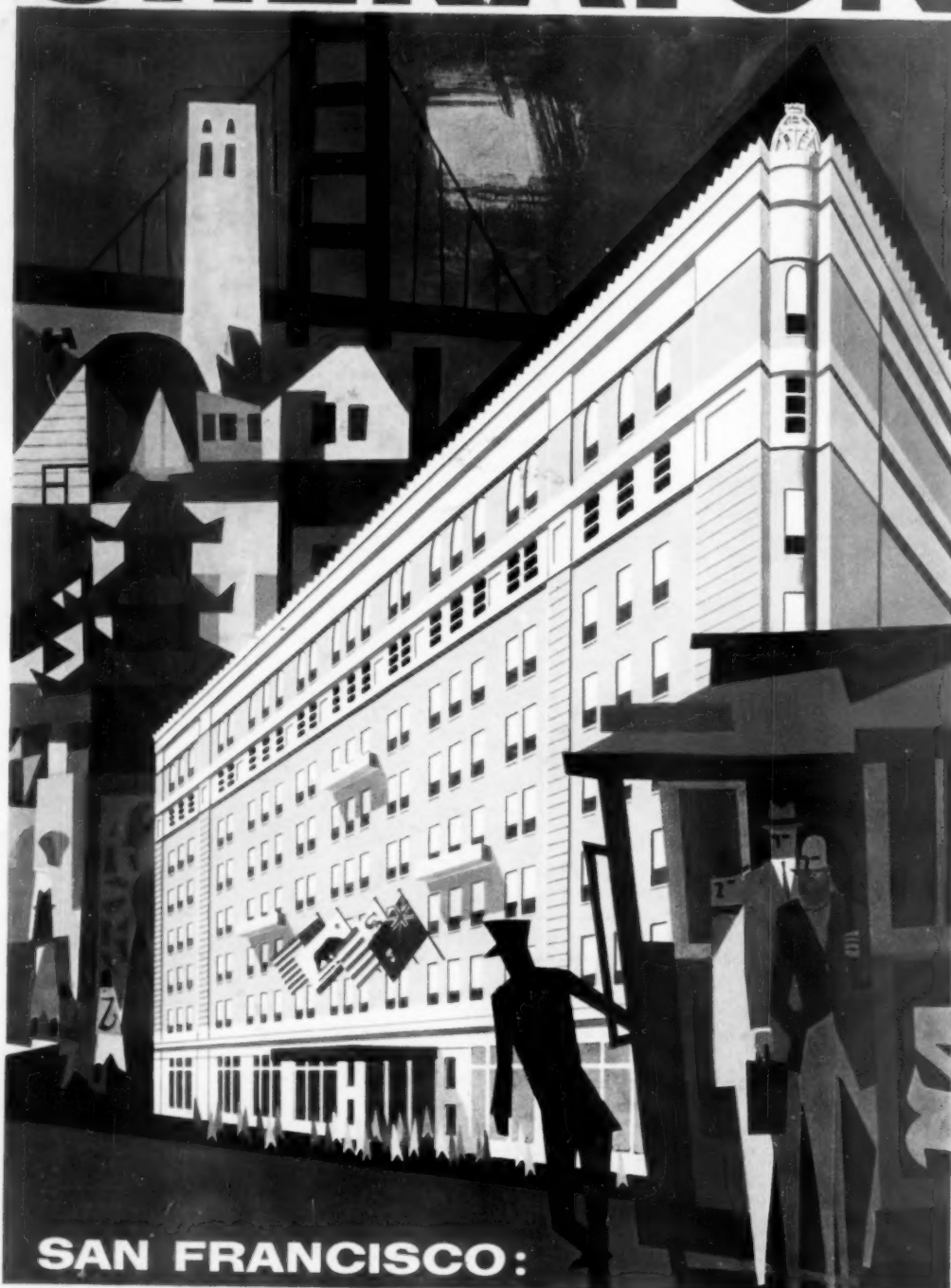
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